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## WASTE IN EDUCATIONAL CURRICULA<sup>\*</sup>

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One of the marked facts in the educational history of the United States is the extraordinary growth in attendance on institutions of higher learning within the last few decades. The attendance in colleges, universities, and technical schools in 1889-90 was 55,687, and in 1908-9 it was 170,266—a gain of 206 per cent. The growth in population in the same period has been as follows: Population in 1889-90, 62,622,250; in 1909 (estimated), 90,161,309—a gain of 44 per cent. The increase in the attendance on educational institutions has outstripped the ratio of the increase of the population to a large extent.

May we infer from this very large gain in the attendance on schools of various grades that we have thereby a fair measure of progress in education? Are we getting results to correspond? Is there, in other words, a largely accelerated increase in the education and efficiency resulting therefrom throughout the country at large? In short, may we reasonably compare the effectiveness of our whole system of education with that, for instance, of Germany?

It is not my purpose today to discuss details, to any great extent, or to criticize particular forms of education, but rather to take a general survey of the whole field. As an association of

<sup>\*</sup> Read at the meeting of the North Central Association of Colleges and Secondary Schools, Chicago, March 22, 1912.

secondary schools and colleges we are in a position to regard education as a continuous whole from the elementary school to the university, and perhaps in that way we can reach some judgments which at least will answer as a provisional basis for a scientific and detailed investigation. ( May we ask ourselves in the first place at what point in the educational scheme we find on the whole the most strenuous work on the part of students? I think few of us would doubt that we should find that especially in such schools as those of law, medicine, and technology, in every one of which there is an immediate professional purpose which gives definiteness to the ambition of those concerned. Perhaps to these may be added some college-preparatory schools in which in like manner there is the definite object of passing college-entrance examinations. In all these, in other words, the work of the student is directly related to an immediate end of his hopes and ambitions.

On the other hand, where in the entire scheme do we find noticeably a tendency to idling, accompanied by innumerable forms of social distraction? In other words, where do we find instructors casting about them for artificial stimuli to encourage the educational activity of students? Perhaps we should agree without doubt that we can find this particular spot in the usual secondary school and in the college. In fact, educational literature of late is filled with discussions of how to grapple with the very many puzzling forms which this problem assumes.

May we infer that the quality of the teaching profession is at fault? While of course no one claims that the profession is beyond criticism, and that it is not open to very large improvement, at the same time I think it will be admitted that the great body of those engaged in teaching are intelligent, are faithful to their duties, and are trying in every reasonable way to improve the methods with which they are doing their work, and to find still more definite aims. There is an increasing amount of professional training, and there is a much greater volume of careful study of existing conditions. I do not believe, therefore, that on the whole the quality of the profession can be regarded as responsible for such facts as may appear in derogation of getting the best results from certain forms of our educational organization.

Perhaps we can find some light as to our problem if we take up a specific question, regarding that as somewhat typical. Some studies have been made of the age at which students trained for medical practice finally reach their profession. At a late meeting of the Council on Medical Education the president of that council, Dr. Arthur Dean Bevan of Chicago, stated that medical candidates at the Western Reserve University in June, 1912, will have an average age of 27.9 years; Harvard, 27.2; Rush Medical College, in affiliation with the University of Chicago, 27; the University of California, 27; Johns Hopkins University, 26.4; and Cornell University, 26.4. It will be remembered that at the Johns Hopkins and at Harvard and at Western Reserve the four-year medical course follows a four-year college course, making a total of eight years, from which it is fairly to be inferred that the students on the average must have been between 19 and 20 on entering college. At Rush Medical College the total course, including the college course, is six years, from which it should be inferred that the medical candidates must have been upward of 20 on the average on entering college. Of course when a year or more of the hospital-interne work is added it will appear that the average age of students from the above institutions when they reach actual practice will be between 28 and 29 years. On the other hand, in England the average age of the young practitioner entering on his profession is from 25 to 26, and in Germany also from 25 to 26 years. There is thus in these two countries a discrepancy somewhere of about three years, and surely it can hardly be claimed that on the whole the medical candidates in this country are superior in their training to those in Germany. Where is the discrepancy found?

The average age at graduation from the German *Gymnasium* is about 19. It will be seen that, entering the university at that age and beginning immediately with the medical work, as is the case in Germany, the student can complete his medical course, and complete a course as interne in a hospital, and still be ready for practice as above noted at the age of 25 or 26. The *Gymnasium* course is on the whole practically equivalent, in its content at least, to a course in one of our high schools, together with the first two years in our colleges. The average age of those receiving the

Bachelor's degree at the University of Chicago in June, 1911, was 23.78. It happened, incidentally, that among the two hundred graduates in question exactly one hundred were men and one hundred were women. The average age of the men was 23.59 years, and of the women was 23.97 years, giving the average above noted of 23.78. Of course this means that the average young man who took his Bachelor's degree was about  $19\frac{1}{2}$  years old at the time he entered college, being thus rather more than two years back of the graduate of the German *Gymnasium*. Of course these averages include all candidates for the Bachelor's degree, of whom only a modicum were medical students, and from the facts as above adduced it appears that the average age of the medical students was somewhat higher than the average age of all the Bachelors in question.

Now where occurs this loss of time? In point of fact the testimony of most medical men is clear that it is desirable for students to be younger when they enter on their medical studies as their minds are more flexible. Moreover, it is, as was said, fairly plain that the German training certainly is by no means inferior to that in this country, at least. It seems therefore that somewhere in our system there is a wastage of at least two years, and possibly more. Where does this wastage occur? Is it found in the organization of our educational system, or is it found in the rate at which our younger students progress in their education?

I am inclined to believe that there is no serious difficulty in pointing out the wastage so far as the organization of the system is concerned. In the first place, the elementary school as usually organized implies eight grades, extending from the sixth year. Of course there are variations in different places. I do not believe that eight grades are necessary. At most this work should be done in seven years, and I think myself it could be done in six years. We do altogether too much teaching at that age. The primary requirement for a child in those years is that he be a healthy, happy, busy little animal. He should learn some things which he can use in the way of reading and writing and number-work and the use of his hands in various ways, and in observation. At the same time the main thing in those years is not the content of knowledge, and



I believe that the long duration of the school year fags the child so that there is an intellectual loss in the weariness of the constant schooling. We must remember that education is by no means all the result of schooling. The child gets education at home and in his total environment. Moreover, his mind is maturing and getting added powers by the mere process of growth, and the schooling is one, therefore, among many factors. Let the child escape from us teachers a reasonable amount of time during those years, and I believe we should get just as good results at an earlier age.

In the second place, if we study high-school and college catalogues we shall notice that in point of fact the colleges in their first year and in a part of their second year, so far as the content of the instruction goes, are doing precisely the same things that are done in the high schools. To all intents and purposes, therefore, the work is a duplication. There is an overlapping of work and a waste of time. Of course the students are older in the college than they were a year or two before in the high school, and, being older, perhaps they can do the work in a different way and possibly a little better; but then, so far as that goes, it is true at any point in the total curriculum, and I cannot see the advantage of this utter wastage of time. If the work of the secondary school is properly done—and if not properly done it ought to be and can be—when the student finishes with the secondary school he ought to be ready for the university; and by that I mean not for a Freshman class in a college but for the Junior class in the college, which is the beginning of real university work. All the preliminary work which covers the latter part of the high-school and the first part of the college course ought to be finished at that time, and the student able to enter specifically and definitely on a given course, continuing it with accurate methods and with a definite accurate purpose.

Now if it is possible to organize the work through the entire curriculum, the saving in the elementary school and the saving in the mal-adjustment before the secondary school and college would rescue just the two years that we need to be able to carry the student through as is done in Germany. Here then would seem to be the point of attack for an adequate study of the situation.

At this rate it will be seen that the student should, if he enters

college as it is now organized, be not more than 16 years, or at most 17 years, of age; should enter the university ready for professional work in medicine, law, or what not at the age of 18 or 19 years. My own belief is that in every case the earlier age is entirely practicable, but even conceding the other age we should still have a considerable saving.

Considering the other question of the coherent efficiency of the work of the entire curriculum, we are confronted with these facts: The student passes from school to school, falling into the hands of a different set of teachers with different ideas and ideals, but as a rule, so far as my observation goes, possessed with a uniform conviction that the work of preparation in the school immediately below is altogether inadequate, and therefore that much of it must be duplicated. I have noticed this in certain high schools, where it seems that the graduate from the grades comes to the high school improperly trained. I notice it each year in colleges, where the college teachers complain that the high-school training is not adequate for their purposes. In fact, I remember very well a number of years ago that what was then called a grammar school, which would cover about the second half of our present grades, had the same complaint of the work done in the first four grades. Poor little tots who had come from the grades and the three or four elementary years came up to this grammar school and were not properly trained. I wonder how many of us remember Thomas Nast's cartoon illustrating the Tweed Ring in New York in 1870. The picture showed all the thieving city officials standing in a circle, and each man was pointing his thumb over his shoulder at the man behind him. Nobody was responsible himself; it was always the other fellow who did it. Now I sometimes have thought that we teachers, although of course entertaining no criminal intentions, in practice are somewhat in the position of the gentlemen in Nast's cartoon: it is the other fellow who did it. We are doing our part as well as it can be done, and if only the other fellow would do his part we should get so much better results.

Another difficulty perhaps can be found in the very natural evolution of the secondary school in the direction of specialization. Instead of one teacher being responsible for all the work or the most

of the work of a student of a given age, he passes from the hands of a professor of Latin into the hands of a professor of geography, and thence into the hands of a professor of English, and so into the hands of a professor of mathematics, and so on *ad infinitum*. Each one naturally magnifies his calling, and is sure that he must have just as much of a student's time as he can get. None of them can have in mind the totality of the pupil's work, and the proper adjustment and relativity of the various subject-matters of instruction. In other words, they are seeking to make the pupil a Latinist, a mathematician, a geographer, and what not, instead of seeking the balance and rounded training to which each child is entitled.

Again, there have been innumerable additions in our schools in the last generation in respect to the subject-matter of instruction. The field of human knowledge is constantly increasing, and we feel that our schools ought to reflect that vast field. It seems a fair question whether the tendency of this is not to try to spread over a curriculum too many small fragments of many things, whereby the pupil loses in the coherence of a definite plan of study and finds substituted a very great number of small fragments of things. It does seem to me that we should get more educational values out of fewer things, taught for a longer time, and with more effective drill and repetition.

Again, I am wondering whether we are getting out of some of our subject-matter all the values for which we hoped. May I illustrate, for instance, by such a subject as that of English? As we know, a generation or so ago the English in the secondary school consisted in the main of grammar and rhetoric, and possibly a little in the way of the history of English literature, with now and then readings from some selected authors. That has been expanded into a rich English curriculum, in which a great deal of work is done in writing and in the study of specific authors. We have in our schools a large English faculty, consisting of well-trained instructors and eager teachers who are trying faithfully to accomplish very definite results. These results, I suppose, are to train the student to speak and write English well, to become familiar with the best literature, and above all to become fond of the best literature. I don't feel at all sure that we are getting those results. I don't notice that

students entering college write, so far as I can see, perceptibly better English than those who entered college a generation ago, before all this work was done. I don't notice that their grasp of English literature, and especially their love for good literature, is very much better, if any, than it was then. Now of course in saying this I admit frankly that I speak not on the basis of an extensive and scientific study of the situation, but simply on the basis of what has come repeatedly under my observation. I am wondering whether the efforts of our teachers to get their pupils to write good English is not in part counteracted and nullified by the incessant note-taking and scrappy writing done by the same pupils in other departments. In the English department they are taught to write in a certain way to secure good form, and then they go into a geography or history lesson, take rapid notes, and write rapid papers which may contain the subject-matter of knowledge in those departments but presented in very slovenly English because they have no time to do the thing as it should be. Therefore what we are putting into the pocket with one hand perhaps we are taking out with the other. I cannot forget how one of the noblest poems written by an American author was ruined for me completely by my being obliged to parse it. All the glory and beauty of the poetry evaporated, and there remained a delicately articulated skeleton. I don't know whether this is typical or not, but judging by the kind of reading done by most of our young college students I simply raise the question whether we have got so far as we hoped we were going to get when we entered on this very extensive program of instruction in English.

Now these points are suggestive. I am not recommending a specific plan, although of course it would be easy for any of us to do something of that sort. My own estimate would be that a better organization than the one at present would be an elementary school of six years, the main purpose being not primarily the acquisition of knowledge; followed by an intermediate school of three years from the ages, say, of 12 to 15, in which the child ought to learn how to use his mind to acquire some specific knowledge; and then perhaps what we might call in the absence of a better name a collegiate school of three years more, in which the student might

finish his preparation either for business life or for the university. This would, as you see, take off one grade from the eight absolutely; and would take off the last grade of the remaining seven and combine that with the first two of the present secondary school; and would condense the remaining two of the secondary school with the first of the ordinary college into the work of three years: thus making the student ready for the university proper at the age of about 18, or, if you like, 19.

Further, I am inclined to think that our grading is not sufficiently exacting. In other words, that too many are promoted *en masse*. We ought to sift those who are admitted to each grade of the schools from the one below with progressive sharpness, so that the burden of proof should be on a student to prove his right to pass from the elementary to the intermediate school, to pass from the intermediate to the collegiate school, and still more to pass from the collegiate school to the university. That is to say, it should be progressively more difficult to secure promotion. In this way I fancy we could get greater efficiency from our instruction.

You will notice that these matters as to reorganization are by no means the presentation of a definitely formulated plan, but are merely a suggestion as to what perhaps is worthy of consideration and investigation. Many plans may be formed, any one of which may be better than the one herein suggested. The main thing I have in mind is to answer these questions: Can we not in our educational system save at least two years which seem now to go to waste owing to the needless protraction of schooling and the needless duplications? Can we not make our work more effective by giving it greater coherence throughout? Can we not study the subject-matter of our instruction in various things with a view of ascertaining whether on the whole we are getting the results which we ought to get? In other words, if a student of secondary-school age has been studying French two or three years why should not the student be able to use that French effectively as a means of conversation and sight reading? Why may not the same thing apply to Latin? Why may not the same thing apply to any branch of knowledge which we try to impart? Are we getting this form of result?

## RELIABILITY OF THE GRADING OF HIGH-SCHOOL WORK IN ENGLISH

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The University of Wisconsin

I. *Problem and method of investigation.*—The reliability of the school's estimate of the accomplishment and progress of pupils is of large practical importance. For, after all, the marks or grades attached to a pupil's work are the tangible measure of the result of his attainments, and constitute the chief basis for the determination of essential administrative problems of the school, such as transfer, promotion, retardation, elimination, and admission to higher institutions; to say nothing of the problem of the influence of these marks or grades upon the moral attitude of the pupil toward the school, education, and even life. The recent studies of grades have emphatically directed our attention to the wide variation and the utter absence of standards in the assignment of values. Dearborn pointed out in his investigation<sup>1</sup> the large inequalities in the standards of grading employed by different teachers. Of two instructors in the same department one gave 43 per cent of his students the grade of "excellent" and to none the grade of "failure," whereas the other gave to none of his students the grade of "excellent" and to 14 per cent the grade of "failure." The wide difference in this instance is no doubt due in part to a difference in the students and in the nature of the work, but largely to a difference in the standards of marking.

In order to determine precisely the personal equation in evaluating the work of pupils, it is necessary to eliminate all other causes of variation. The mere comparison of marks assigned by different teachers to their classes will not reveal this personal factor stripped of the other variable elements, such as difference in amount and kind of work covered by the class, emphasis upon different topics,

<sup>1</sup> W. F. Dearborn, *School and University Grades* (Bulletin of the University of Wisconsin, No. 368), p. 57.



differences in teaching ability, and differences in the pupils themselves. To discover the variability in judging the merits of an examination-answer paper it is necessary to have the same paper graded independently by different teachers.

Concretely, the problem of this investigation was to determine the range of variation and the reliability of the marks assigned by

5 Every parenthetical expression should be set off by a comma.

(5) There ~~are~~ are two corridors in this building, one above the other.

1 Every initial letter should be followed by a period.

(1) C. K. Lannon built the "Calumet K"

2 Every assertive sentence should be ended by period.

(2) The fact that the earth is round is undisputed.

## II

In writing a paragraph, the following requirements should be observed;

- (A) Unity. (B) Coherence. (C) Emphasis.  
(D) Proportion. (E) Parallel Construction.

Extract from paper A (reduced about one-half).

teachers to examination-answer papers. For this purpose, two examination-answer papers written by two pupils at the end of the first year's work in English,<sup>1</sup> together with the questions, were obtained from one of the largest high schools in Wisconsin. English papers were chosen for this first test because it was thought that personal differences were more apt to appear in the estimating

<sup>1</sup> Similar investigations with answer papers in geometry and history are now under way.

of merits of a language paper; and also because the findings with English might possibly have a certain significance for the grading of work in foreign languages. Plates of these answer papers were made, and several hundred copies were printed upon the same kind

- 4) The comma is used in an answer, as:  
Yes, I will come.
- 5) Use the comma to make thought clear.
- 1) The period is used at the end of a sentence.  
is, the day is warm.
- 2) The period is used in abbreviations, as,  
for Captain use capt.

## II a paragraph should be:

- a) coherent
  - b) unity
  - c) ~~narration~~
  - d) proposition
  - e) impl.-cons.
- and contain

Extract from paper B (reduced about one-half).

of paper (foolscap) as was used originally by the pupils. In this manner the handwriting, the errors and changes made by the pupils, the neatness, and so forth, were reproduced exactly as in the original papers.

### EXAMINATION QUESTIONS

1. Give five rules for the use of the comma, two for the period, and illustrate each use by a sentence.
2. Give five requirements to be observed in the structure of a paragraph.
3. Write a brief business letter.
4. Define narration, coherence, unity; classify sentences rhetorically and grammatically. Illustrate or define.
5. Name all the masterpieces studied this year and name the author of each. (Answer: Irving's *Sketch Book*, Hawthorne's *Mosses from an Old Manse*,

Shakespeare's *Merchant of Venice*, Whittier's *Tent on the Beach*, Scott's *Ivanhoe*.<sup>1</sup>)

6-10. Write a three-paragraph essay, narrative, descriptive, or both combined.

#### PAPER A

##### English

##### I

Every introductory clause or phrase should be set off by a comma.

(1) In the morning, when it is light, we will go.

2. "But" is a word of opposition and should always be preceded by a comma.

(2) Many are called, but few are chosen.

3. Words, phrases, and clauses forming a series should be separated by a commas.

(3). The warm, humid air is oppressive.

4 A noun or pronoun in the direct address should always be followed by a comma.

(4). Mary, give me a book.

5 Every parenthetical expression should be set off by a comma.

(5). There are two corridors in this building, one above the other.

1. Every initial letter should be followed by a period.

(1). C. K. Bannon built the "Calumet K"

2. Every assertive sentence should be ended by period.

(2). The fact that the earth is round is undisputed.

##### II

In writing a paragraph, the following requirements should be observed:

(a) Unity. (b) Coherence. (c) Emphasis. (d). Proportion. (e) Parellel Construction.

##### III

1002 Jenifer St.,  
Madison, Wis.,  
June 14th, 1910.

Funk and Wagnall's Co.,  
44-60 E. 23d St., New York.

Gentlemen:

Enclosed please find draft for five dollars (\$5<sup>00</sup>/<sub>100</sub>), for which send to the above address the "Literary Digest" for one year. I should like to begin with the first July number.

Yours respectfully,

##### IV

(1). Narration is that form of discourse in which the writer or speaker presents a series of related events.

(2). Coherence is that principle of rhetoric which demands that ideas be presented in their natural and logical order.

<sup>1</sup> This answer, of course, was given with the questions sent out to the teachers.

(3). Unity is that principle of rhetoric which demands that one topic and one only be discussed in a paragraph, and one thought and one only be expressed in a single sentence.

(4). (a) Sentences are classified grammatically, as to form and use.

As to form, sentences are classified as simple, compound, complex, and compound-complex. A simple sentence is one consisting of one subject and one predicate, either or both of which may be compounded. A compound sentence is one consisting of two or more simple sentences. A complex sentence is one consisting of an independent clause, and one or more dependent clauses. A compound-complex sentence is one consisting of a compound sentence and a complex sentence.

As to use, sentences are classified as assertive, which states a fact; imperative, which commands or orders; interrogative, which asks a question; and exclamatory, which expresses a sudden outburst of feeling

(b). Sentences are classified rhetorically as loose, balanced, and periodic.

A loose sentence is one that may be brought to a close in two or more places and in each case make complete sense.

A balanced sentence is one consisting of two parts similar in structure, but often contrasted in meaning.

A periodic sentence is one that reserves the most important thought for the end of the sentence.

#### V

Masterpieces studied this year and names of authors are,

"Ivanhoe" by Sir Walter Scott.

"The Sketch Book" by Washington Irving.

"The Tent on the Beach" by John G. Whittier.

"Mosses from an Old Manse" by Hawthorne.

"Rob Roy" by Sir Walter Scott.

"Last of the Mohicans" by J. F. Cooper.

"The Man Without a Country" by Everett E. Hale.

"The Merchant of Venice" by Shakespeare.

#### VI-X

##### "An Irish Hall of Fame."

"An Irish Hall of Fame" will form part of the equipment of a new Boston College, now being erected by the Jesuit order. This hall with other buildings will be a memorial to Daniel O'Connell. (Daniel O'Connell, the great Irish Statesman was born in 1775. He took the side of the Catholics, claiming that they should equal rights with the Protestants of Ireland and that Ireland should have its own government. He secured the rights for the Catholics and kept on lecturing for free government. He was arrested, tried, and acquitted. His friends forsook him and he died of a broken heart in 1847).

The center hall of this building is one hundred and sixty feet high. Surrounding the hall are two corridors, supported by high Gothic arches, one above

the other. Opening onto these corridors are thirty-two minor apartments, representing the thirty two counties of Ireland. These rooms will be furnished as museums, illustrating the history of each county. It is also planned to have friezes representing the spiritual and material progress of the Irish race.

The largest room in this building is fitted with all the modern theatrical equipments, and has a seating capacity of two thousand. There are also many committee rooms in the building which makes it an ideal place for conventions. Great pains are being taken in selecting the architecture of this building, so that it will be in keeping with the high memorial purpose. The cost of building is two hundred thousand dollars.

## PAPER B

## English

- I 1) All parenthetical expressions should be set off by commas. as; George Washington, the first President of the United States, was the father of his country.
- 2) All introductory clauses and phrases should be set off by commas: as, Fido, the dog that ran away, is found
- 3) All words in apposition should be set off by the comma, as; Queen, the horse, is dead.
- 4) The comma is used in an answer, as; Yes, I will come.
- 5) Use the comma to make thought clear.
- 1) The period is used at the end of a sentence. as, The day is warm.
- 2) The period is used in abbreviations. as, for Captain use capt.
- II A paragraph should be:
- a) Coherent.  
and contain
- b) Unity
- c)
- d) proportion
- e) emphasis.
- A paragraph may be developed in the following ways
- (a) by definition and explanation
- (b) example and illustration
- (c) comparison and contrast
- (d) narrative.
- (e) Proof.

504 Wis. Ave  
Madison, Wis  
June 14, 1910.

## III Marshall Field &amp; Co.

Dear Sirs,—

Please send to above address five yards of material to match the enclosed sample:

Yours Truly.

## IV

Narration is that form of discourse in which the writer or speaker gives a series of related events.

Coherence is that principle of rhetoric which demands that ideas be presented in their natural and logical order.

Unity is that principle of rhetoric which demands that one thought, and one only be discussed in a paragraph, and that one idea, and one only be expressed in a sentence

Sentences are classified grammatically, as to form and use: as to use they are classified as, Imperative, declarative, exclamatory and interrogative.

An imperative sentence is one that gives a command

A declarative sentence is one that asserts.

An Interrogative sentence is one that asks a question.

An exclamatory sentence contains an exclamation, as, Alas, the bird is dead.

As to form, they are classified as Simple, complex and compound.

A simple sentence contains a subject and predicate, either, or both of which may be compound.

A complex sentence is one which contains one Independent and two or more dependent clauses.

A compound sentence contains two or more simple sentences.

Sentences are classified rhetorically as; loose, periodical and balanced.

A loose sentence is one which may be brought to a close in two or more places, and in each case make complete sense. A periodical sentence is one which retains the most important part until the last.

A balanced sentence, contains two parts, which are alike in construction, but contrasted in meaning

## V

Mosses of an Old Manse, Hawthorne

Sketch book, Irving

Tent on the beach, Whittier.

Last of the Mohicans, Cooper.

John Halifax, Mulock

Merchant of Venice, Shakespeare.

Ivanhoe	} Scott.
Kenilworth	

## VI-X

My puppy.

My puppy is an affectionate little animal, about three months old. He is white, with so many little black spots on him that many people think that he should have been named "Freckles", but we named him "Patsy" instead.

He is very bright, and learns quickly.; When we first got him, he made a great comotion in the dining room, if he did not get something to eat when we were eating, but now he knows better and lies quietly under the table all



through the meal, without even chewing our shoe strings. The only time that he gets cross, is when he runs into the back yard of the people who live next to us. Then I have to go after him because he finds meat and such things that the people have put out for their dog, but are not good for a puppy. He does not like this because he is very fond of meat.

At first the "next door" dog, did not like Patsy, and was very jealous of him, because he did not receive so much attention, as he had before. But now they are becoming fast friends and are together every minute. Patsy has given us many a scare, for, when we have been sitting on the front porch, he has run off and we have been sure that he was lost, or run over by an automobile, and gone to look for him, but on our return we have always found him dozing comfortably on the back mat, or playing with Brandy, which is the name of the "next door" dog.

A set of questions and a copy of each of the two answer papers were sent to each of two hundred high schools in the North Central Association, with the request that the principal teacher of first-year English grade these two papers according to the practices and standards of the school.

One hundred and fifty-two out of the two hundred papers were returned. Five were discarded either because they had not been graded numerically or because they did not give the passing grade of the school. In two schools the passing mark was 60 and in three it was 80. These five also were discarded from the tabulations because of the obvious difficulty of evaluation. Of the remaining one hundred and forty-two schools, fifty-one had a passing mark of 70 and ninety-one had a passing mark of 75.

That the grading was done carefully is evident from the fact that, with a few exceptions, separate marks and comments were given upon the answer to each question.

The grades assigned by the one hundred and forty-two teachers can best be represented by the distribution curves on the following pages.

II. *Explanation of charts.*—The range of possible marks is indicated along the base line of each chart and the number of times each grade was given is indicated by the number of dots above that grade. Thus in Fig. 1 the grade 80 was given by two teachers and the grade 85 by four teachers. The two papers are designated as A and B.

Fig. 1 gives the values assigned by ninety-one teachers to paper A in schools whose passing grade is 75. Fig. 2 gives the values

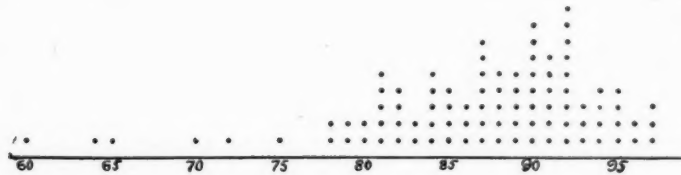


FIG. 1.—Paper A. Passing grade 75. Median 88.3

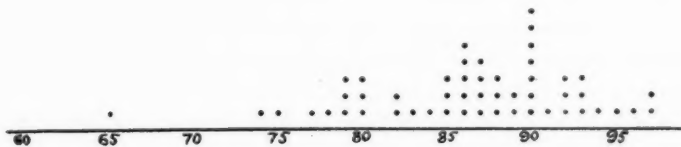


FIG. 2.—Paper A. Passing grade 70. Median 87.2

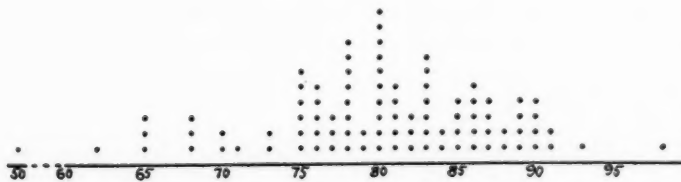


FIG. 3.—Paper B. Passing grade 75. Median 80.4

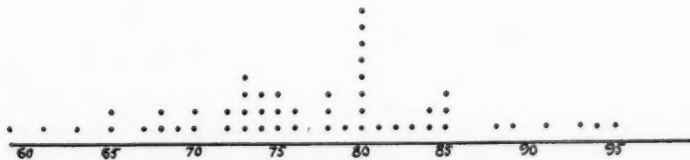


FIG. 4.—Paper B. Passing grade 70. Median 78.8

assigned by fifty-one teachers to the same paper in schools whose passing grade is 70. It will be noted that there is a difference of

only 1.1 points between the medians<sup>2</sup> of the two groups, although there is a difference of 5 points between the passing grades.

Figs. 3 and 4 represent the marks given by the same two groups to paper B. Here again there is a difference of only 1.6 points between the medians. Paper B is considerably poorer. It is judged 7.9 points lower by the first group of teachers and 8.4 points lower by the second group.

Fig. 5 is a composite chart showing the values given to paper A by the entire one hundred and forty-two teachers. The values

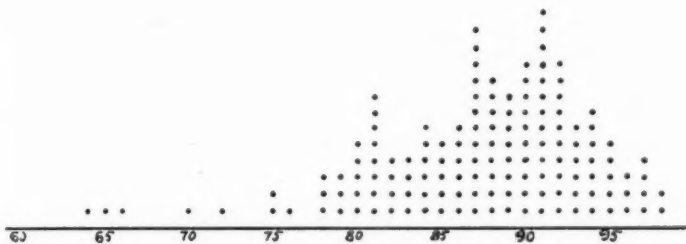


FIG. 5.—Paper A. Passing grade 75. Median 88.2. Marks assigned by schools whose passing grade is 70 are weighted by one point.

assigned by teachers in schools whose passing grade is 75 are represented as in Fig. 1, while the values assigned by teachers in schools whose passing grade is 70 are all raised one point, because the difference between the medians is approximately one point. Thus the combination of the two sets of schools in one chart is entirely fair.

Fig. 6 represents a similar combination of the marks of paper B. In this chart, however, the marks assigned by the teachers in schools whose passing grade is 70 are raised two points, because here the difference between the medians is approximately two points.

These composite charts show more clearly just where the bulk of the grades lie. They also bring out the fact that the range of marks is approximately the same for a small group of teachers as

<sup>2</sup> The median is the grade which is as often above as below the grade assigned. It is roughly equivalent to the average. It is used here because it represents the central tendency more accurately than the average would.

for a large group. In fact, almost any ten marks picked out at random will cover nearly the entire range of variation.

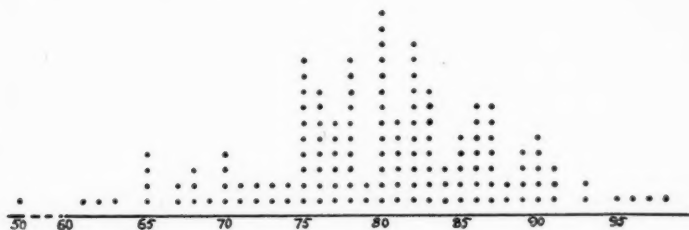


FIG. 6.—Paper B. Passing grade 75. Median 80.2. Marks assigned by schools whose passing grade is 70 are weighted by two points.

Figs. 7 and 8 represent the marks given to the two papers by eighty-six students in the course on the teaching of English in the

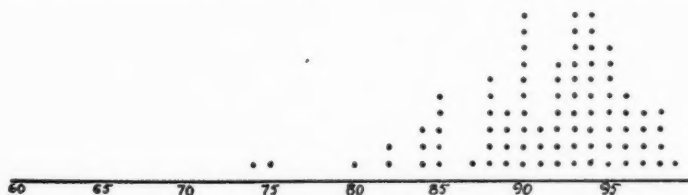


FIG. 7.—Paper A. Assumed passing grade 70. Median 92.4. Marks assigned by students in the course on the teaching of English, at the University of Wisconsin.

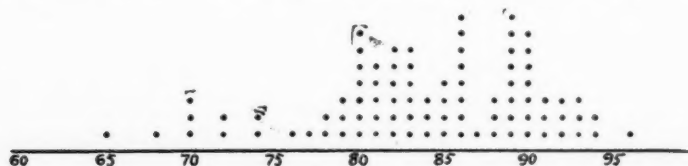


FIG. 8.—Paper B. Assumed passing grade 70. Median 84.5. Marks assigned by the students in the course on the teaching of English, at the University of Wisconsin.

University of Wisconsin. Only a few of these persons had had teaching experience. For the sake of definiteness, 70 was assumed as the passing grade. The range of variation is approximately the

same for the grades assigned by the students as for the grades assigned by the teachers. A difference worth noting, however, is that the students graded more leniently than the teachers. The median of the marks assigned by the teachers to paper A is 87.2 (Fig. 2), whereas the median of the marks assigned by the students is 92.4. The medians for paper B are 78.8 (Fig. 4) and 84.5, respectively. The students thus graded the first paper 5.2 points, and the second paper 5.7 points, higher than the teachers.

Figs. 9 and 10 represent the marks given to the two papers by ninety-eight students in the course on educational measurements

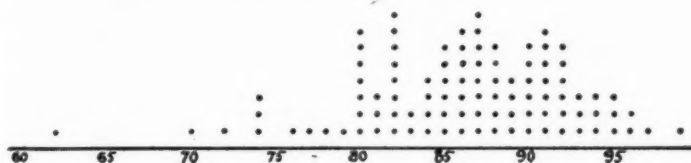


FIG. 9.—Paper A. Median 86.7. Marks assigned by the students in the course on educational measurements, at the University of Chicago.

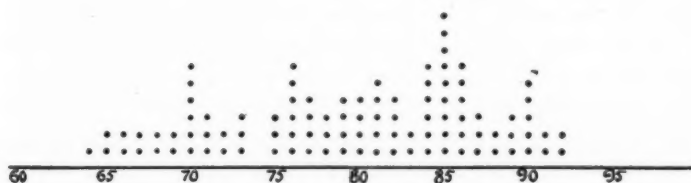


FIG. 10.—Paper B. Median 80.5. Marks assigned by the students in the course on educational measurements, at the University of Chicago.

(Summer Quarter, 1911) in the University of Chicago. This class was composed almost entirely of superintendents, principals, and teachers, a few of whom were not accustomed to grading English papers. The large majority, however, were experienced in marking papers, and regarded themselves capable of evaluating them with considerable accuracy. Their results are of special interest because of the fact that the standards for marking in public school systems, to a large extent, are set and scrutinized by the superintendents and principals. Nevertheless, the medians and the ranges of their

marks are almost identical with those in Figs. 1 to 6. Consequently, their judgments are no less variable than those of the teachers.

III. *General results.*—1. The first and most startling fact brought out by this investigation is the tremendously wide range of variation. Teachers usually state, when asked about differences in marking, that the grades of the same paper assigned by different teachers might differ at the most 10 points. It is almost shocking to a mind of more than ordinary exactness to find that the range of marks given by different teachers to the same paper may be as large as 35 or 40 points.<sup>1</sup> In Fig. 6 one-half of the marks lie between 83 and 92, and in Fig. 7 one-half lie between 75 and 85.

The two papers, A and B, were marked 80 and 75 respectively by the teacher under whom the pupils had taken the course. The passing grade in this school is 70. The medians of the marks given by the other schools whose passing grade is 70 are 87.2 and 78.8 (Figs. 2 and 4). Hence the teacher of these pupils marked their papers considerably lower than the teachers in the other schools.

Another interesting fact is the bearing of these data upon the question of promotion and retardation. The pupil who wrote paper B, the poorer of the two, received from his teacher a mark 5 points above the passing grade, whereas twenty-two out of the one hundred and forty-two teachers (Figs. 3 and 4) did not give a passing grade to this pupil. Therefore it may be easily reasoned that the promotion or retardation of a pupil depends to a considerable extent upon the subjective estimate of his teacher.

Even the standard of a given teacher is more or less variable and indefinite. It is sometimes said that even if different teachers give different marks, yet the relative estimates of the papers will be the same. To what extent is it true that if a teacher gives a high grade to one paper he will give a correspondingly high grade to the other, or vice versa? The curves in Fig. 11 give a definite answer to this question. The points along the horizontal axis represent the individual teachers and the points along the vertical axis the grades. The points at which the two curves intersect a given ordinate are the marks given by the same teacher to the two papers.

Evidently if it were true that a given teacher marked both

<sup>1</sup> The wide range of these marks is perhaps due, but we believe only to a small extent, to the differences in method of teaching and in the emphasis and importance placed by different teachers on different aspects of English.



papers correspondingly high or low, the two curves would be parallel. In general both have a descending direction, but the variations are by no means uniform. Thus paper B is marked on the average 8 points lower than paper A, yet nineteen of the one hundred and forty-two teachers marked it higher than paper A, and twenty-three marked it 15 or more points lower than paper A.

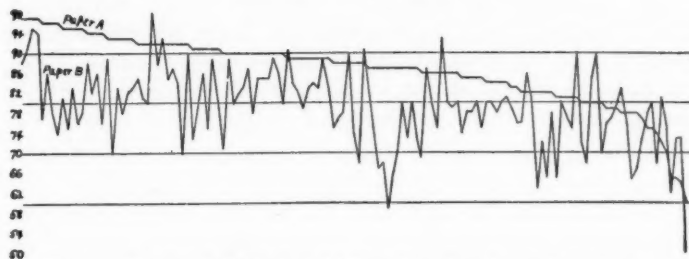


FIG. 11.—Showing individual variability of teachers in grading paper A and paper B.

The range of marks of paper B is somewhat wider than that of paper A, because it is a poorer paper, leaving more room for variation in the upper marks. Paper A is nearer to the 100 mark and so is more limited on that side of the distribution surface.

Professor Jacoby of Columbia University made an investigation similar to the present one but on a much smaller scale. He submitted for grading eleven astronomy papers to six professors of astronomy. The marks on a scale of 10 were as follows:<sup>1</sup>

	A	B	C	D	E	F
1.....	9.0	9.0	8.5	7.2	9.0	7.3
2.....	7.0	6.6	7.0	5.9	6.0	6.5
3.....	9.0	9.0	8.8	7.2	8.0	8.0
4.....	10.0	9.4	9.9	8.0	10.0	9.2
5.....	7.0	6.2	6.7	5.8	7.0	5.9
6.....	10.0	9.8	9.6	7.6	10.0	9.5
7.....	6.0	5.8	6.3	4.6	7.0	5.4
8.....	9.0	9.3	9.7	8.0	9.0	8.8
9.....	8.0	5.7	9.0	6.7	10.0	8.7
10.....	10.0	8.5	9.1	6.2	9.0	9.0
11.....	9.0	9.0	9.5	6.1	8.0	9.0
Average .....	8.5	8.3	8.6	6.7	8.5	7.9

<sup>1</sup> H. Jacoby, "Note on the Marking System in the Astronomical Course at Columbia College, 1909-1910," (*Science*, XXXI, 819).

Professor Jacoby makes the following comment on this table: "Making due allowance for this circumstance in the case of Professor D,<sup>1</sup> there is a very close accord in the marks given by the various professors." "It would appear . . . that the marking system is more precise than some critics would have us believe. Possibly this may be due to the fact that astronomy is an exact science."

Such an interpretation as this can scarcely be made of the above table. Even when we omit Professor D's marks, the range of the marks given to paper nine is 4.3, to paper one 1.7, to paper seven 1.6, to papers ten and eleven 1.5, and so on. Such wide variations certainly impeach the reliability of the marks. The range in the astronomy marks is on the whole not so large as in the English marks. This is due partly, perhaps, to the fact that astronomy is an exact science, and partly to the fact that the astronomy papers were graded by only six examiners, who were more expert in their field than the teachers of English were in theirs.

Just the opposite of Professor Jacoby's conclusion would be the more correct interpretation, at least of the English grades. Marks are far less precise than the majority of teachers and pupils believe.

The probable error<sup>2</sup> of grades calculated on the basis of the data in Figs. 5 and 6 is approximately 4.5. This means that the individual marks deviate on the average 4.5 points from the median or average of the entire group of marks. The fact of such a large probable error shows the absurdity of marking to the fractional part of one point, as was done in quite a number of papers. One paper was even graded as fine as 79.9. The probability is that at best any one teacher's mark is 4 or 5 points from the true mark, if the average mark given by a large number of teachers may be regarded as the true mark.

2. As already stated above, students without teaching experience mark more generously than teachers.

<sup>1</sup> Professor D seems to have regarded 5.0 instead of 6.0 as the passing mark. Hence his marks are somewhat lower than the others.

<sup>2</sup> The probable error is a statistical term which roughly is equivalent to the average amount of error. It is an index of the reliability or variability of a set of measurements.

3. Small high schools tend to mark somewhat more leniently than large high schools, but the range of variation is the same. Figs. 12 and 14 show the marks given to papers A and B respectively

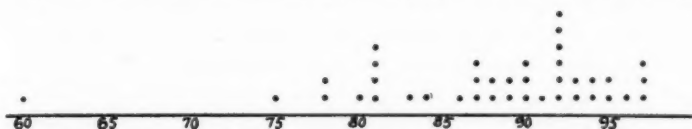


FIG. 12.—Paper A. Small schools. Passing grade 75. Median 89.5. Marks assigned by schools whose passing grade is 70 are weighted by one point.



FIG. 13.—Paper A. Large schools. Passing mark 75. Median 86.8. Marks assigned by schools whose passing grade is 70 are weighted by one point.

by high schools with one hundred and fifty pupils or less. Figs. 13 and 15 represent the marks assigned to papers A and B respectively by high schools with one hundred and fifty-one pupils or

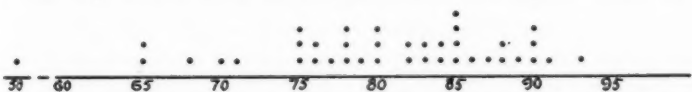


FIG. 14.—Paper B. Small schools. Passing grade 75. Median 82.0. Marks assigned by schools whose passing grade is 70 are weighted by two points.

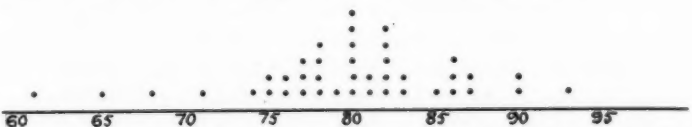


FIG. 15.—Large schools. Passing grade 75. Median 80.3. Marks assigned by schools whose passing grade is 70 are weighted by two points.

more. The smaller schools graded paper A 2.7 points higher and paper B 1.7 points higher than the larger schools. Although this difference is small, it appears in both papers, and probably indicates a real tendency among smaller schools to grade more liberally.

## STANDARDS OF SOUTHERN COLLEGES FOR WOMEN<sup>1</sup>

ELIZABETH AVERY COLTON  
Meredith College, Raleigh, North Carolina

There are in the South one hundred and forty-two colleges for women distributed as follows: in Maryland, seven; in Virginia, thirteen; in West Virginia, Florida, and Oklahoma, one each; in North Carolina, eighteen; in South Carolina, ten; in Georgia and Alabama, nine each; in Mississippi and Texas, fourteen each; in Louisiana, five; in Arkansas, two; in Missouri, eleven; in Kentucky, fifteen; and in Tennessee, twelve. North Carolina appears ignominiously to head the list; but an equally close-range searchlight might prove several other states guilty of an equally absurd number of nominal colleges. For three institutions in Kentucky and an additional twelve in Tennessee failed to respond to requests for catalogues. In fact, I am not absolutely sure that the above numbers are complete for any state except North Carolina. But as hardly a fifth of the institutions enumerated are giving any standard college courses, it is safe to assume that no institution doing any college work has been omitted.

Only four of all the colleges for women in the South have been recognized by the Association of Colleges of the Southern States; and only six others are included by the Specialist in Higher Education in either his third or his fourth class. The remaining hundred and thirty-one southern colleges for women have never been classified according to any national or sectional standard.<sup>2</sup> I have, therefore, attempted to formulate a basis of classification which might indicate, however inadequately, some distinction between

<sup>1</sup> Report presented by the chairman of the Committee on Standards of Colleges at the ninth annual meeting of the Southern Association of College Women, Nashville, April 3-5, 1912.

<sup>2</sup> The Board of Education of the Methodist Episcopal Church, South, classifies only institutions under Methodist control; and as the minimum requirements for its Class A colleges are not so rigid as those of the Association of Colleges of the Southern States, its classified lists should not be confused with the southern or national standard.

institutions which are merely inferior secondary schools and those which are really doing more or less college work. With this object in view, I have during the past year compiled statistics showing the specific admission requirements *announced* in the catalogues of southern colleges for women; and with these statistics as a basis I have grouped all these institutions under the following heads:

1. Institutions belonging to the Association of Colleges of the Southern States.
2. Institutions offering from three to four years above standard college-entrance requirements, but not conforming to the regulations of the Association of Colleges of the Southern States.
3. Institutions counting two or more years of preparatory work toward a baccalaureate degree.
4. Institutions counting from three to four years of preparatory work toward a baccalaureate degree.

A classification based largely on catalogue announcements is apt to be misleading; for announcements are not always put into effect. Indeed, if I should attempt to make an absolutely accurate classification, it would be necessary to have as many classes as colleges—or at least to add a qualifying footnote for each institution. As that would be too confusing, I shall, by way of compromise, not only discuss the general characteristics of each group, but also point out, as far as can be estimated from catalogues, the institutions that for various reasons appear either better or worse than the typical ones of the divisions in which they have been placed.

The first group, composed of colleges belonging to the Association of Colleges of the Southern States, is limited to four:

Agnes Scott College .....	Decatur, Georgia
Goucher College .....	Baltimore, Maryland
Randolph-Macon Woman's College .....	Lynchburg, Virginia
Sophie Newcomb Memorial College .....	New Orleans, Louisiana

Goucher is the only woman's college in the South which has been put in Class I by the Specialist in Higher Education. I shall not, however, stop to point out in what respects Goucher is superior to Agnes Scott, Randolph-Macon, and Sophie Newcomb; but, instead, I wish to show how these four colleges, as a group, stand out from all other southern colleges for women. In the first place, they have pledged themselves not to allow their college instructors

to do any preparatory teaching either in an academy, a sub-Freshman, or a conditioned class; and they have also pledged themselves not to allow their conditioned Freshmen to make up work in a preparatory school—if they have one—nor to allow their preparatory students to take any college courses.

The importance of this rigid separation of preparatory and college students cannot be overemphasized in southern colleges for women, where preparatory, special, and special-study pupils so largely predominate. For a majority of immature and "irregular" pupils necessarily affects the standard of a college. And it is on account of the very small proportion of regular college students in our colleges for women that so few of them can afford to conform to the regulations of the Association of Colleges of the Southern States.

Since the famous 1906 Carnegie Foundation definition of a college, the idea has unfortunately become rather prevalent in the South that in order to become a standard college all that is necessary is to *announce* an admission requirement of fourteen units. In 1906 only four southern colleges for women required fourteen entrance units; by 1910 the number announcing this requirement had increased to sixteen; in 1911 the number announcing fourteen or more units had jumped to thirty-one. But with the exception of the four already discussed in group one, very few of these institutions have any endowment whatever. They are therefore unable to engage even as many as six well-trained professors exclusively for college work; or to provide libraries, laboratories, and other buildings and equipment necessary for maintaining a high standard of scholarship and efficiency. Consequently, though twenty-seven institutions in the second group are announcing in quantity standard admission requirements, none of them has yet been recognized as a standard college.

In addition to the twenty-seven colleges announcing a requirement of fourteen or more units for entrance, I have included in the second group seven others which, though announcing a slightly lower admission requirement, are undoubtedly equal in standard to several making the highest claims. Indeed, in spite of the apparently identical entrance units of the majority of these thirty-four colleges, they really vary in standard from institutions whose



graduates could not enter the Freshman class of a first-class college to those whose Bachelor of Arts degree represents as much as three years of real college work. In order to roughly suggest this variation, and to emphasize the importance of requiring at least ten units of academic work for admission to special-study schools, I have arranged the institutions of this group under the following subheads:

1. Institutions announcing a requirement of fourteen units for admission to courses leading to a baccalaureate degree, and as much as ten units for admission to courses leading to a diploma in music, art, and expression:

Bessie Tift College	Forsyth, Georgia
College for Women <sup>1</sup>	Columbia, South Carolina
Converse College	Spartanburg, South Carolina
Judson College	Marion, Alabama
Meredith College	Raleigh, North Carolina
Mississippi Industrial Institute and College	Columbus, Mississippi
Notre Dame College	Baltimore, Maryland
Salem College <sup>1</sup>	Salem, North Carolina
Shorter College	Rome, Georgia
Sweet Briar College <sup>2</sup>	Sweet Briar, Virginia
Tennessee College	Murfreesboro, Tennessee
Woman's College	Frederick, Maryland

2. Institutions announcing a requirement of fourteen units for admission to courses leading to a baccalaureate degree, and from eight to *no* units for admission to courses leading to a diploma in music, art, and expression:

*Athens College	Athens, Alabama
Baylor College	Belton, Texas
*Belhaven College and Institute	Jackson, Mississippi
*Brenau College	Gainesville, Georgia
*Buford College	Nashville, Tennessee
*Central College for Women	Lexington, Missouri
*Chicora College	Greenville, South Carolina
*Columbia College	Columbia, South Carolina
*Forest Park University	St. Louis, Missouri
Greensboro Female College	Greensboro, North Carolina
Hollins College	Hollins, Virginia
*Lagrange Female College	Lagrange, Georgia

\* In spite of admission announcements, these colleges apparently belong in the third "group"; some may even belong in the fourth group. They are by no means equal in standard to the three state colleges in the third subdivision of this group.

<sup>1</sup> College for Women and Salem announce a maximum requirement of thirteen units for 1911-12.

<sup>2</sup> Sweet Briar does not give a diploma in music, art, or expression; and so requires no definite number of units to be presented by special-study pupils.

Mount Saint Agnes College.....	Mt. Washington, Maryland
*Texas Fairmont Seminary.....	Weatherford, Texas
Wesleyan College.....	Macon, Georgia
Woman's College of Alabama.....	Montgomery, Alabama
*Young's College.....	Thomasville, Georgia

\*In spite of admission announcements, these colleges apparently belong in the third "group"; some may even belong in the fourth group. They are by no means equal in standard to the three state colleges in the third subdivision of this group.

3. Institutions announcing a requirement of from ten to twelve units for admission to courses leading to a baccalaureate degree, and less than ten for admission to courses leading to a diploma in music, art, and expression:

Florida State College for Women.....	Tallahassee, Florida
Galloway College.....	Searcy, Arkansas
Lander College.....	Greenwood, South Carolina
State Normal and Industrial College.....	Greensboro, North Carolina
Winthrop Normal and Industrial College.....	Rock Hill, South Carolina

The distinctions made by the above subdivision are far from adequate; for the fact that an institution announces a requirement of fourteen entrance units does not prove that the institution is able to enforce this requirement, or that its curriculum is of college standard, or that students are actually pursuing the courses outlined for baccalaureate degrees. In fact, only one-third of the institutions in the whole group make any distinction whatever in their catalogues between preparatory, special-study, and college students; it is, therefore, impossible to tell whether twenty-three of these institutions have any appreciable number of students actually working for a degree. Even in the first subdivision only the six mentioned below publish in their catalogues for 1910-11 a clearly defined roll showing the number of regular college students:

	Regular College Students	Total Enrolment
Converse College.....	146	317
Judson College.....	70	234
Meredith College.....	86	358
Mississippi Industrial Institute and College.....	260	752
Tennessee College.....	69	195
Woman's College (Frederick, Maryland).....	45	210

Sweet Briar does not state the number of its college students; but by a close scrutiny of its register of students one can detect that 46

are separated by spaces which seem to indicate the four college classes; the total number is easily estimated as 202.

The predominance of preparatory and "irregular" pupils, forcibly illustrated by the above figures, constitutes the leading characteristic, and, at the same time, the leading weakness, of southern colleges for women. Some of the colleges in the second group try to make a virtue of necessity, and advertise that their upper preparatory classes are taught by college professors; and some advocate the association of preparatory and college students on the ground that such association "furnishes that stimulus so necessary for inspiration and higher ideals"; others dwell on the benefit that their music, art, and expression students receive from "the social and intellectual life of the college." But, in reality, the overworked professor, the immature fine-arts "specialist," and even "the inspired" *prep* are apt to make the clear, keen, scholarly atmosphere of college life somewhat hazy.

The tendency on the part of the southern girl to specialize before she has acquired even a good high-school education causes one of the leading distinctions between eastern and southern colleges for women. Of the 1,030 students now at Vassar, for example, only 100 are taking lessons in piano, voice, organ, and violin, combined; at Greensboro Female College, on the other hand, there were last year out of a total registration of 215 exactly 151 studying music. This proportion of music students—one-tenth at Vassar and nearly three-fourths at Greensboro—is, I find, typical of women's colleges in the East and in the South; and perhaps I should add that even the few who study music in eastern colleges are working primarily for an academic degree. This is not true of the majority of music students in southern colleges. Eastern colleges do not try to compete with conservatories, and they no more think of advertising their music departments than their departments of mathematics. A department of music is, of course, indispensable in a woman's college; but if an institution wishes to be recognized as a *college*, it is safer for it not to try to be "the leading conservatory of music in the South!"

But though immature "specializers" are a menace to a high standard of scholarship in practically all southern colleges, yet there

is hope for the institutions in the second group which really require as much as ten units for admission to their special-study schools and which are sufficiently well organized to publish a classified list of their students. Two of these colleges, Converse and Meredith, are rated by the Specialist in Higher Education as doing the equivalent of three years of standard college work. And though a student who should spend three years at Vassar or Wellesley would probably have a broader culture, if not a higher degree of scholarship, than if she had studied four years at either of these southern colleges, yet this comparative rating is, no doubt, as nearly accurate as possible; for the effect of college "atmosphere" cannot be computed.

If, however, Converse and Meredith are living up to their announcements as to admission requirements and curriculum—and I have every reason to believe that they are—the question naturally arises, Why are they not rated as doing four years of college work? In the first place, they have as yet had no *graduates* who presented fourteen units when they *entered*; and, in the second place, the quality of their college work, as I have already implied, has to a certain extent been affected by the predominance of special-study pupils. The chief reason, however, that the A.B. degree of such southern colleges as Converse and Meredith is not more nearly equivalent to that of eastern colleges for women is due to the poorer preparation of the majority of even regular Freshmen in southern colleges. To illustrate, Meredith College has for four years required in English three units of as good a quality as North Carolina high schools could furnish; yet it has taken my students two years to complete in English composition the work done at Wellesley, Vassar, and Mount Holyoke in one year. And since I taught Freshmen English at Wellesley from 1905 to 1908, the difference can hardly be due to a difference in the quality of the teaching.

It is true, no doubt, that several colleges belonging to the Association of Colleges of the Southern States admit students whose preparation is not any better than that of the Freshman classes at Meredith and Converse; but they have at least been requiring fourteen units—whatever their quality—a year or two longer, and they have not so large a proportion of special-study pupils. And,

besides, they are not themselves in the national Class I of colleges; for only four southern universities<sup>1</sup> (Vanderbilt, Virginia, Missouri, Texas) and one southern college (Goucher) are rated by the Specialist in Higher Education as offering four years of work equivalent to that done at the three eastern colleges for women taken as my basis of comparison.

Another college in the first subdivision of the second group which deserves special mention is the Mississippi Industrial Institute and College. Its collegiate department, considered apart from its normal and industrial departments, is certainly equal to that of any institution in the whole group; but owing to its large proportion of normal and industrial students, this department has not received the recognition to which in itself it seems entitled. Beginning, however, with the second semester of the present year, the Mississippi Industrial Institute and College has made the slight readjustment necessary for separating entirely its college work from that of its other departments. And Salem College, also in the first subdivision, ought, with its recently acquired endowment, soon to be able to conform to the regulations of the Association of Colleges of the Southern States.

Only one of the institutions in the second subdivision of group two has been rated by the Specialist in Higher Education—Greensboro Female College; and this he classes as offering two years of college work. The Board of Education of the Methodist Episcopal Church, South, rates Columbia, Wesleyan, and the Woman's College of Alabama as being of equal standing with Greensboro Female College. From their catalogues, however, I should assume that Wesleyan was somewhat superior to the others. Indeed, as far as can be judged from catalogues, the A.B. degree of Baylor, Hollins, and Wesleyan apparently represents the same amount of work as that of Converse and Meredith; but since none of these requires as much as ten units of academic preparation for admission to special-study schools, the standard of each, as a whole, is not equal to that of the best colleges in the first subdivision. Yet in many respects they are superior to the remaining colleges in the second subdivision.

<sup>1</sup> Since the above report was completed, the University of North Carolina has been included in the national Class I.

Several of these—particularly Buford, Brenau, Lagrange, Texas Fairmont, and Young's—show even in their catalogues that they have not fully grasped the requisites of a college. Buford, for example, has provided a faculty of only three besides its president for its four-year "University Preparatory School" and its "College Course of four full years in liberal arts and sciences." One is, therefore, forced to assume that this institution either has no students in the four college classes, or else that the members of its faculty are so occupied with preparatory teaching that they cannot give standard college courses. And this assumption is further justified by the fact that Buford announces an admission requirement of three units in mathematics and four in Latin; and yet prescribes plane geometry and Caesar for the work of its Freshman class. Lagrange had last year only thirty-two college students all told; and more than half of the thirty-two were conditioned. Texas Fairmont had no A.B. graduates in 1911 even under its old requirements. Furthermore, Texas Fairmont states that it requires for admission to its B.S. and B.L. courses three units of history; yet for its B.L. *degree* it requires six additional "units" of history, necessitating a repetition of ancient, mediaeval and modern, and English history, work already credited for entrance. Brenau devotes more than a third of its catalogue to illustrations and quotations, and barely a sixth to its outline of college courses; yet Brenau confers six degrees! And Young's nearly trebled its admission requirements in its last catalogue; so that presumably its present Freshmen are more advanced than its Sophomores and Juniors.

Many other institutions in this group and in the next should bear in mind that no institution doing two or more years of preparatory work in its collegiate department can turn into a college between June and September. The best colleges in the first subdivision of the second group raised their entrance requirements one or two units a year. And one institution has found difficulty in increasing from ten to fourteen units in four years. Yet several colleges in the third and fourth groups have already announced their intention of increasing their entrance requirements six or eight units during next summer. By so doing, they will not, as they suppose, become



eligible to membership in the Association of Colleges of the Southern States; but they will probably find that, like the colleges just discussed, their last state is worse than their first.

The inadequacy of the subdivisions in the second group is most marked in regard to the colleges in the third subdivision. As Winthrop and the North Carolina State Normal, in the third subdivision, require as much as two years of secondary-school work for admission to every department, their students presumably average a higher standard of scholarship than those of Belhaven, Brenau, Buford, Central, Hollins, Texas Fairmont, and Young's—institutions in the second subdivision stating no academic requirements for admission to, or graduation from, their schools of music, art, and expression. In fact, judging from their general organization and equipment, Winthrop, the North Carolina State Normal, and the Florida State College for Women appear to be superior to practically all the institutions in the second subdivision; and one is inclined also to assume that they are in advance of most of the colleges in the first subdivision that have so few regular students that they are unwilling to publish a classified list of their pupils.

And just as the subdivisions in the second group fail in many cases to indicate either the actual or the comparative standard of a particular institution, so it is that no clearly defined line of distinction can be drawn between some institutions in one group and some in the preceding or succeeding groups. For instance, twelve or more institutions whose announcements place them in the second group are, I feel confident, inferior to several in the third group; but since a personal investigation of all the hundred and forty-two or more colleges for women was impossible, the only legitimate alternative was to class them according to their announcements. And my divisions do, to a certain extent, indicate the standard of the typical colleges of each group, especially as I point out, whenever possible, the institutions whose catalogues unconsciously reveal that they are not living up to their announcements.

The following institutions, counting two or more years of preparatory work toward a baccalaureate degree, constitute the third group:



Alabama Brenau College.....	Eufaula, Alabama
All Saints Episcopal College.....	Vicksburg, Mississippi
Andrew College.....	Cuthbert, Georgia
Caldwell College.....	Danville, Kentucky
Campbell-Hagerman College.....	Lexington, Kentucky
Centenary College-Conservatory.....	Cleveland, Tennessee
Central College.....	Conway, Arkansas
Chowan College.....	Murfreesboro, North Carolina
Christian College.....	Columbus, Missouri
Coker College.....	Hartsville, South Carolina
Cottey College.....	Nevada, Missouri
Cox College.....	College Park, Georgia
Elizabeth College <sup>1</sup> .....	Charlotte, North Carolina
Greenville Female College.....	Greenville, South Carolina
Grenada College.....	Grenada, Mississippi
Hamilton College.....	Lexington, Kentucky
Hardin College.....	Mexico, Missouri
Howard Payne College.....	Fayette, Missouri
Kee Mar College.....	Hagerstown, Maryland
Lexington College for Young Women.....	Lexington, Missouri
Liberty Ladies' College.....	Liberty, Missouri
Limestone College.....	Gaffney, South Carolina
Lindenwood College.....	St. Charles, Missouri
Logan College.....	Russellville, Kentucky
Mansfield Female College.....	Mansfield, Louisiana
Margaret College.....	Versailles, Kentucky
Marion Seminary.....	Marion, Alabama
Martha Washington College.....	Abingdon, Virginia
Martin College.....	Pulaski, Tennessee
Mary Baldwin Seminary.....	Staunton, Virginia
Meridian Woman's College.....	Meridian, Mississippi
North Texas College.....	Sherman, Texas
Peace Institute.....	Raleigh, North Carolina
Presbyterian College for Women <sup>2</sup> .....	Charlotte, North Carolina
Saint Mary's College.....	Dallas, Texas
Saint Mary's School.....	Raleigh, North Carolina
Sayre College.....	Lexington, Kentucky
Southern Presbyterian College <sup>3</sup> .....	Red Springs, North Carolina

<sup>1</sup> Elizabeth College announces fourteen specific admission units for 1913-14.

<sup>2</sup> Presbyterian College makes a general statement in its 1911-12 catalogue that it will require fourteen entrance units in 1912-13.

<sup>3</sup> Southern Presbyterian College announces specifically a year in advance that it will require four and a half additional units for admission in 1912-13.

Southern Seminary.....	Buena Vista, Virginia
Stephens College.....	Columbia, Missouri
Stonewall Jackson Institute.....	Abingdon, Virginia
Sullins College.....	Bristol, Virginia
Switzer College.....	Itasca, Texas
Synodical Female College.....	Fulton, Missouri
Texas Presbyterian College.....	Milford, Texas
Virginia College.....	Roanoke, Virginia
Virginia Institute.....	Bristol, Virginia
Whitworth College.....	Brookhaven, Mississippi
Woman's College of Due West.....	Due West, South Carolina

The best of these forty-nine institutions complete—or nearly complete—fourteen units by the end of their Sophomore year, but the work of their Junior and Senior years can hardly be considered that of a standard college. Nominally the courses are almost identical with those given in the last two years of a real college, but students who are barely prepared for standard Freshman work are too immature to get the full benefit from courses in psychology and ethics, and they have not had sufficient foundation for elective courses in ancient and modern languages and literature. And, besides, college courses cannot be given by instructors who often have from twenty to twenty-five hours of classroom work a week. Graduates of several of these institutions have, it is true, been admitted to the Junior class of colleges belonging to the Association of Colleges of the Southern States; but that simply proves that some standard colleges have in special instances given two years' advanced credit to students who have not had college Freshman and Sophomore courses. And, unfortunately, in nearly every such case, the student has been bright enough to do good work; so that the standard college feels justified in its rating, and the first institution very naturally claims to be doing two years of college work.

Everyone ought to know, however, that a brilliant student who has never had standard college courses in English, Latin, mathematics, science, and modern languages might be able to make a good record in Junior and Senior electives: and that she would, no doubt, be able to outshine a less intelligent girl who had spent the full time on all required college courses. But would she, herself, have the same degree of scholarship as if she had had the more solid

foundation? I know a few students from institutions in the third group who have been credited at standard colleges with even as much as three years of college work. As a result, when they graduated at the end of a year, they had never had a single college course in any high-school subject. And one of these who made an excellent record had much difficulty in keeping a position in a good city high school simply because psychology, philosophy, sociology, and even pedagogy did not make her proficient in secondary Latin and German. Nor was she any better prepared for the proper teaching of English, history, or science. Doubtless she did teach as well as a stupid classmate with a full college course might have done; but a stupid classmate would probably not have been recommended as "brilliant and scholarly, thoroughly equipped to teach any subject she was willing to undertake"; and the high school would not have suffered.

On the whole, therefore, the rigid rating adhered to by the best eastern colleges when admitting students to advanced standing seems best. Except in the case of several "junior colleges" which I shall mention later, it is extremely doubtful whether graduates of any of the institutions in this group would receive any advanced credit at Bryn Mawr, Barnard, Mount Holyoke, Radcliffe, Vassar, or Wellesley. I should explain, however, that a student from one of these southern colleges would probably be as well prepared for the Freshman class of one of the eastern colleges for women at the end of her Junior, as at the end of her Senior, year; for her Senior courses in psychology, ethics, evidences, and even in Tennyson and Browning, would naturally be too superficial for credit at any first-class college.

The "junior colleges" referred to above—Hardin and Lindenwood in Missouri and Hamilton in Kentucky—seem to be doing more thorough work than any of the other colleges in the third group. Hardin and Lindenwood require the completion of eighth-grade work as a prerequisite for admission into their academies, in which they offer a standard four-year college-preparatory course. They then offer two years of standard Freshman and Sophomore work. Lindenwood does still require a year's work in psychology and ethics; but its other courses conform to legitimate Freshman

and Sophomore subject-matter. Several other institutions in Missouri and in Kentucky are announcing junior-college courses, but they do not seem to have progressed so far in their college evolution as the three already mentioned.

Hamilton, especially, has won distinction by not offering an "English," a "literary," or a "seminary" course; by not including psychology or ethics in its curriculum, which is definitely planned to prepare students for admission to the Junior class of the best colleges; and by conferring no degrees whatever. Two other Kentucky colleges offering junior-college courses, Caldwell and Campbell-Hagerman, share with Hamilton the distinction of not conferring degrees. All Saints Episcopal College in Mississippi does not call itself a junior college; but as All Saints explicitly states that it offers only Freshman and Sophomore work, and as it confers no degrees, it deserves to be classed with the colleges just discussed.

Nearly all the other institutions in this group also offer, as I have more than once implied, two years of work above college-entrance requirements; but I have tried to show that that is not equivalent to giving, as the colleges just cited seem to be doing, two years of standard Freshman and Sophomore work. And since without an endowment it is impossible to become, or at any rate to remain, a standard college, it is to be hoped that, instead of emulating the example of such institutions as Buford, Lagrange, and Young's, several more of the best institutions in the third group will make the slight reorganization which would turn them into thorough two-year colleges. As the majority of the institutions in this group, however, have not sufficient equipment for doing even two years of college work, it would probably be wiser for them to remain what they are—a sort of combination finishing school and academy—until the old order is so completely changed that there will be no demand for this kind of education. But all the institutions in this group would gain in dignity if they dropped the name *college* and substituted diplomas for degrees. Saint Mary's School in North Carolina, with a standard equal to that of most of the colleges in this group, has the unique distinction of retaining the name *school*. And Peace Institute and Southern Seminary, as well as Saint

Mary's, deserve honorable mention for not conferring degrees for work which, though above college-entrance requirements, does not conform to the corresponding courses in standard colleges.

But though for many years there will no doubt be a demand in the South for such institutions as St. Mary's and Peace, yet there is no legitimate excuse for the prolonged existence of the majority of schools in the fourth group, which is made up of institutions doing mainly secondary-school work. The following is a list of fifty-five institutions counting from three to four years of preparatory work toward a degree, or claiming to be colleges by retaining the name *college*:

Alabama Central Female College.....	Tuscaloosa, Alabama
Asgard College.....	South Houston, Texas
Bellwood Seminary.....	Anchorage, Tennessee
Belmont College.....	Nashville, Tennessee
Bethel College.....	Hopkinsville, Kentucky
Birmingham Seminary.....	Birmingham, Alabama
Blue Mountain College.....	Blue Mountain, Mississippi
Boscobel College.....	Nashville, Tennessee
Bourbon College.....	Paris, Kentucky
Carr-Burdette College.....	Sherman, Texas
Central Mississippi Institute.....	French Camp, Mississippi
Chapel Hill Female College.....	Chapel Hill, Texas
Claremont College.....	Hickory, North Carolina
Davenport College <sup>1</sup> .....	Lenoir, North Carolina
Fairmont College.....	Monteagle, Tennessee
Franklin Female College.....	Franklin, Kentucky
Hillman College.....	Clinton, Mississippi
Home Institute.....	New Orleans, Louisiana
Howard Female College.....	Gallatin, Tennessee
Liberty College.....	Glasgow, Kentucky
Linwood College.....	Gastonia, North Carolina
Littleton College.....	Littleton, North Carolina
Louisburg College.....	Louisburg, North Carolina
Louisiana Female College.....	Keatchie, Louisiana
Madison Institute.....	Richmond, Kentucky
Maryland College.....	Lutherville, Maryland

<sup>1</sup> In a few special instances, graduates of Davenport College have been credited with nearly two years of college work at Trinity. Davenport announces twelve entrance units for 1912-13; at present it seems to be requiring the equivalent of *four* admission units.

Memphis Conference Female College.....	Jackson, Tennessee
Millersburg Female College.....	Millersburg, Kentucky
Mississippi Synodical College.....	Holly Springs, Mississippi
Oxford College.....	Oxford, North Carolina
Owensboro College.....	Owensboro, Kentucky
Port Gibson Female College.....	Port Gibson, Mississippi
Powhatan College.....	Charleston, West Virginia
Radnor College.....	Nashville, Tennessee
Roanoke Institute (B.S.).....	Danville, Virginia
Rogersville Synodical College.....	Rogersville, Tennessee
Sacred Heart College.....	Belmont, North Carolina
Saint Joseph's College.....	Emmitsburg, Maryland
Saint Mary's College.....	San Antonio, Texas
San Antonio Female College.....	San Antonio, Texas
Silliman Collegiate Institute.....	Clinton, Louisiana
Soule College.....	Murfreesboro, Tennessee
Southern Christian College.....	West Point, Mississippi
Southern Female College.....	Petersburg, Virginia
Stanton College.....	Natchez, Mississippi
Statesville Female College.....	Statesville, North Carolina
Tuscaloosa College.....	Tuscaloosa, Alabama
West Texas College.....	San Antonio, Texas
Woman's College.....	Richmond, Virginia

The following institutions did not respond to requests for catalogues, but they probably belong to this group:

Alabama Synodical College.....	Talladega, Alabama
Beaumont College.....	Harrodsburg, Kentucky
Centenary Female College.....	Cleveland, Tennessee
Oklahoma Wesleyan College.....	Oklahoma City, Oklahoma
Pontotoc Female College.....	Pontotoc, Mississippi
Texas Woman's College.....	Bryan, Texas

The majority of these schools admit students apparently from the seventh or eighth grade; and since a standard high school represents at least four years of work above the seventh grade, these institutions cannot be of higher rank than secondary schools. It is true that some claim to "complete" Cicero and Virgil in one year with only half-hour recitation periods; and that, too, when pupils are carrying six or eight studies. In fact, the number of studies taken at a time and the amount of subject-matter skimmed enable many of these schools to offer Junior and Senior college electives to

students who should be doing third- and fourth-year high-school work: which proves, not that they are colleges, but that they are not even good secondary schools. A few of the best institutions in this group, however, such as Birmingham Seminary, offer a course of study which definitely prepares for college; and some, though still retaining the name *college*, have stopped conferring degrees.

But a number of equally good preparatory schools have the greater distinction of being omitted entirely from the fourth group because they do not either in name or in act claim to be colleges; notably among these are the schools for girls belonging to the Association of Colleges and Preparatory Schools of the Southern States, namely: Agnes Scott Academy, Blackstone Female Institute, Girls' Latin School (Baltimore), Miss Gibbes' School, Pape School, and Ward Seminary. And as our public secondary schools, junior colleges, and "near" colleges continue to improve, more of the institutions in the fourth group, if they hope to live at all, will be forced to become good college-preparatory schools, and so to designate themselves.

But before that educational millennium is reached, it will be necessary for many colleges in all the groups to eliminate, not only a large proportion of fine-arts "specializers," but an even greater number of "specials" of the kind who drop studies simply because they are difficult. For it not infrequently happens that a pupil who has dropped Latin before reading Caesar, or who has never got beyond quadratics, may be studying "Senior" history and literature. Indeed, a number of colleges in all except the first group encourage laziness and superficiality by offering nominal B.S., B.D., B.L., M.E.L., and L.L.M. degrees to "young ladies who decline to study Latin."

But in spite of the predominance in our colleges of specializers of every variety, and in spite of the alluring appeal many colleges make by their array of sham degrees, our southern girls are, I think, learning to appreciate a well-rounded education; for each year shows an increase in the number of those who are willing to stay at college after they are eighteen. It is, therefore, confidently to be expected that, in addition to our four recognized women's colleges, several others that are now meeting standard admission



requirements will within the next four or five years secure a sufficient endowment to enable them to fulfil the other requisites of a college in regard to faculty, curriculum, and equipment.

In order to improve the standard of all women's colleges in the South, the Southern Association of College Women should urge each institution to recognize its limitations, and, instead of becoming a pseudo "college-conservatory," to try to become the best of its kind, whether that be a preparatory school, a finishing school, or a junior college. And in order that the best in each group should receive the support they deserve, our different branches and individual members should try, in season and out of season, to inform the public on the following points:

1. What colleges have been recognized by the Association of Colleges and Preparatory Schools of the Southern States, and what colleges have been rated by the Specialist in Higher Education as doing as much as three years of college work.
2. Why institutions calling themselves colleges are not necessarily colleges; and, consequently, why a good high-school or preparatory-school diploma is often of more value than a nominal A.B. degree.
3. Why the sudden increase of admission requirements without a proportionate increase in faculty and in equipment injures, rather than improves, the standard of an institution.
4. Why the admitting of preparatory, special, and special-study pupils affects the standard of an institution.
5. Why, therefore, the regulations of the Association of Colleges and Preparatory Schools of the Southern States are of the utmost importance in the development of standard colleges in the South.

## TWO LINES OF HIGH-SCHOOL READING<sup>1</sup>

H. L. TERRY

State High-School Inspector, Madison, Wisconsin

While there has been a considerable gain, no doubt, as a whole, in the quality of the English in our high schools as a result of the very great increase of time and effort expended upon it in the last few years, yet the still widely prevalent dissatisfaction with the results certainly justifies the belief that there are radical weaknesses in the aims or methods, or both, in the instruction as now being given. If there are weaknesses so fundamental in their nature that they have stood in the way of success all these years, it is time for a thorough overhauling, and if need be revision, of the whole system. Perhaps our ideas of the ends to be kept in view, the definite results to be reached, have been wrong; it may be that we have not had a proper understanding of what a student should have and know in the matter of English when he leaves the high school.

It would seem self-evident that if the proper results had been clearly understood all of the earnest effort put forth in these later years should have produced a much greater degree of success than has been the case. Intelligent common-sense effort concentrated toward the accomplishment of a clearly defined and reasonable purpose is certain to develop methods which will finally succeed; but our progress in this direction in the teaching of English warrants grave doubts of the wisdom of our present ideals.

It is being recognized more and more that any subject must be taught for its value in daily life, that is, from its utilitarian standpoint, if the teaching is to be effective, and if the subject is to remain in the school course. It should be understood, however, that character and culture are just as utilitarian and are of as much use as elements of a successful life as are spelling and the multipli-

<sup>1</sup> Read at the official meeting of the City Superintendents of Wisconsin, Madison, October 7, 1911.

cation table; and, on the other hand, that growth in both character and culture can be brought about in the process of mastering spelling and the multiplication table.

In other words, the great question in English, as in any other study, should be: "What do the best people in the average community need to know and to do in the different lines of English? What do they actually do in English composition? What in the way of formal oral expression? What books and what magazines do they read?" The most we can hope for is that our graduates as a class may take their place in the best grades of society in their communities; yet when we ask these questions of the research people the answer is not ready. Certainly, with all the multifarious lines of research work now being carried on, it is not too much to ask that there should be a few investigators, at least, able to answer direct questions such as these, and so give us a basis upon which to teach intelligently. As matters stand at present we can only act in the light of our individual opinions and observations.

The most superficial observation establishes the fact that there are two great lines of reading being carried on in the daily life of the people of every community, especially by that part of the people who may be considered above the average in industry, intelligence, and general ability, or the class which I have mentioned as being the one into which we should like our students to enter.

These two lines of reading are quite distinct in their nature, and can be more readily distinguished than is usually the case in classifications. The one is exemplified by that which the lawyer is doing in his office when he reads his law and precedents, by the doctor reading his medical works, by the merchant studying the outlook of prices of merchandise, by the housekeeper preparing to apply the directions of a recipe in the preparation of an unfamiliar dish, by the farmer mastering the latest formula of agricultural science with the thought of application for his own betterment, and by the student studying intently into the various relationships of the particular proposition upon which he is engaged.

All of this reading has a common characteristic: it is purely intellectual, and any emotional element is detrimental. The literary element is very little in evidence, except that the composition

must be clear, exact, and unequivocal in its meaning. These people neither laugh nor cry over what they read; but slowly and carefully, word by word, sentence by sentence, and paragraph by paragraph, they master the thought. Every possible meaning must be read into every word of the law, or the lawyer may lose his case; if the housekeeper reads two instead of three spoonfuls, the cooking will be a failure; and the farmer may incur a positive loss if the statements of the article are not thoroughly understood. A common criticism of our high-school work in English is that our pupils cannot read; and I suppose that what is meant is that they cannot do just what I have indicated: they lack the power to master the language of the theorem in geometry, or the paragraph in science or history.

The other of the two great lines of reading which we find in daily practice is very different in its characteristics. Instead of being unemotional, it deals with the emotions, and it becomes more effective as it leads away from reasoning and the purely informational into the realm of the imaginative and sentimental. It is so different that we turn to it as a relief and a rest when the mind is thoroughly tired by the exacting attention and intense mental effort necessary in reading for a complete understanding of the thought expressed.

Now each of these classes of reading must be provided for in any successful teaching; and I have concluded from my observation of methods of teaching that the greatest reason for the confessedly unsatisfactory results lies in the failure to appreciate the fact that the methods employed should be as different as are the ends to be reached, and that the accomplishment of either purpose will be hindered, and perhaps prevented, by the use of methods which will lead to the greatest success in the other. The nearer, too, the methods of teaching approximate the methods employed in the actual practice of the best readers outside of school, the greater and more lasting will be the success.

In teaching these two kinds of reading there should be first of all a careful selection of material. The first, which, in want of a more suitable title, may be called intensive reading, should have material such as I have indicated above as being in daily use for

informational purposes—difficult, filled with thought which can be appreciated by the pupil, and with a literary style such that the attention will not be diverted away from the consideration of the facts and reasoning given. This must be studied as the lawyer reads his law, carefully, both bit by bit and as a whole, a recitation to a paragraph if necessary, and with full understanding by the student of the purpose in view to train him to read for thought. Such material may be found in essays, in some orations, in matter taken from the various technical studies; in fact, abundant material may be found in the daily assignments of the pupil in his various branches of study. I fail to see that there would be any pedagogical crime committed in teaching a student how to read his problem in algebra, his page in botany, or his proposition in geometry as a part of his exercise in English.

The object is to give power, not to excite a strong emotional interest in a wide field. The amount of subject-matter covered will necessarily be very limited. It sometimes takes a considerable time to read a single proposition in geometry, or a single clause of law. I do not believe it is possible for the average class to read page after page of Emerson at a single recitation, and get much value from it. It is a mistaken idea, but a widely prevalent one, that because a certain selection is on the list of readings it must be read in its entirety. A few short selections studied intensively are often all that should be attempted. This kind of work with definite purpose in view has received very little attention in the past, and is very exceptional now, as far as my observation extends. It is no wonder that our pupils cannot read, for we have not been teaching them to read; and in my judgment there will be very little improvement until there is a radical change of ideas of teaching the subject.

I find enough being done, however, to justify me in what I have said in view of the results I see in such cases. Only a short time ago I visited a class in first-year grammar conducted by the principal of a large high school in which the subject-matter for practice in analysis was found in the algebra, physical geography, and other subjects. There was no lack of interest in the grammar when it was found that it was of some real use.

In another school, a class was studying one of Bacon's essays. The question I heard, as I entered the room, was as to the exact meaning of a very short sentence. The student declared that she had been able to get nothing out of it. A lively short discussion followed, and the meaning became clear. The following sentences were then attacked, cleared up, and their thought discussed. Not much subject-matter was covered, but the work was intense and vigorous, every student was alert, thoughtful, and interested, and I believe that all left the recitation stronger in ability to read and understand than they came.

But it is only occasionally that I see such classes doing this work with the proper material. I see it attempted often, as likely as not in connection with an emotional story or poem entirely unsuited for the purpose, and with results such that I feel that the students have been weakened rather than strengthened.

Neither the matter nor the methods I have just indicated are suitable when the purpose is literary appreciation or emotional effect. Instead of an intensive study of a few lines or paragraphs, a good deal should be read in a fairly short time. The student's interest in the selection as a whole must be kept up and the subject-matter must be made attractive to him from his own standpoint. I have often found classes taking months for *Ivanhoe*, or the *Lady of the Lake*, or even for the *Spy* or *Treasure Island*, time enough to make any healthy boy or girl dislike to ever hear the title or author mentioned again. While there are points in the *Merchant of Venice*, for instance, at which it may be necessary to stop and dig for the thought for a time, yet we do it merely for its use in understanding the whole, and as soon as enough is known for that purpose, even though it be but a part, we move on. The great object should be to create a taste, to form a habit, to send the pupils out with a desire to read; to give them some knowledge of good literature and some ability to determine what is good, but not primarily to give power to read as a means of getting a living. The teacher should be the friendly guide helping on the difficult passages, calling attention to features which might otherwise be lost, emphasizing by reading and illustration thoughts which may add to the value and interest, aiming all the while to give that

appreciation which must lie at the basis of permanent results which will make the student a reader when he is left to his own will. The close, intensive analytical work so often attempted from the standpoint of the critic should be left to the college. High-school students have seldom done a great amount of reading, and the natural result of attempting to view literature with them from the standpoint of the widely read specialist is to create a distaste rather than a taste for what is read.

Here again comes in a question which I consider perfectly proper: "What are we doing to help the student so that he will be able to select suitable reading-matter from the news-stands and bookshelves when he must decide for himself? What are the best people of the community reading?" The most we can hope for is that our boys and girls will read about the same after they leave school. Are these people reading the classics of our school lists, or are they reading the books and magazines of today? If, as is no doubt the case, it is the latter, we should certainly be giving a large place (I do not say the entire place) to the study and reading of current literature. The young people should know something of the great magazines and of the kind of reading-matter which may be expected in each. What kind of a magazine is the *Review of Reviews*, the *Outlook*, the *Technical World*, the *Saturday Evening Post*, or *Everybody's*? A training which will lead the young people to select healthful standard and influential magazines is absolutely necessary if we are to train for the best citizenship.

It is very doubtful, to say the least, whatever may be its value in other directions, if the effect of our work in the classics on the voluntary selection of reading-matter when the pupils are left to themselves is not so slight that it may be practically disregarded. I do not wish to be understood as implying that there are not a large number of excellent selections on our present list which should be read as a part of the course, but I am certain that the substitution of examples of what is excellent in present-day literature, in place of the many selections which were never intended to be read by any but widely read, scholarly people steeped in that peculiar literature, would be immensely more profitable for the great mass of our students.



The so-called "outside readings" are not sufficient. I believe that these, as often as otherwise, actually create a distaste, if not an absolute dislike, for the books which the pupils are compelled to read. This work should have its due share of the class periods, and in as far as its purposes are special it should have its peculiar methods. The teachers must be widely read and interested in what is being published, and, above all, they must be so sympathetic that they will be willing and able to meet the individual tastes of the pupils from the nickel-novel stage upward. Such teachers, and only such teachers, will be able gradually to give the necessary information in regard to present-day literature, and to form such habits of reading in their pupils as to produce an impulsive effect which will last after school.

Here again I can say that I do occasionally see this work being carried on, and I know it can be done; and any teacher who is not doing it is falling that much short of a standard which it is possible to reach.

## DISCUSSION

### SOCIETY OF COLLEGE TEACHERS OF EDUCATION

As the arrangements for the report of the 1912 meeting appear to have miscarried, the writer submits this brief account of the action there taken.

The president was authorized to appoint a committee of five to collect and give out information concerning the rating of normal schools of the country in both academic and professional subjects.

The Commissioner of Education appeared before the society to suggest that next February, for one or two weeks before the regular meeting of the Department of Superintendence of the National Education Association, a group of leading educators meet with the Bureau of Education to confer about educational problems and attempt to nationalize the great problems of public education. He explained that arrangements might be made to have lecturers from abroad address this group of special investigators, so that the experiments now being tried in the various European countries could be explained more fully to the leading educators of the United States. He gave as a further reason for such a conference that it would establish a closer relationship between the various state and city educational factors and the United States Bureau of Education. The society ordered the Executive Committee to act as a committee to confer with him regarding the matter.

Dean George F. James of the University of Minnesota was elected president for the ensuing year; Professor Carter Alexander of the University of Missouri, secretary-treasurer; Professor Paul Monroe of Teachers College, Columbia University, member of the Executive Committee to succeed Professor George M. Forbes.

The following persons have joined the Society since the 1912 Register was printed:

Frederick S. Breed, assistant professor of education, the University of Michigan.

George P. Bristol, director of the Summer Session, Cornell University.

H. W. Chase, professor of the philosophy of education, the University of North Carolina.

Stephen P. Duggan, professor of education, the College of the City of New York.

Frank N. Freeman, instructor in educational psychology, the University of Chicago.

Clara M. Hitchcock, Department of Education, Lake Erie College, Painesville, Ohio.

Claude A. Nichols, professor of education, Southwestern University, Georgetown, Texas.

Lester B. Rogers, professor of education, Lawrence College, Appleton, Wisconsin.

J. B. Sears, assistant professor of education, Leland Stanford Junior University.

Edward O. Sisson, professor of education, the University of Washington.

W. M. Stewart, professor of education, the State University of Utah.

Patterson Wardlaw, professor of pedagogy, the University of South Carolina.

CARTER ALEXANDER, *Secretary*

THE UNIVERSITY OF MISSOURI

### ENTRANCE REQUIREMENTS IN TWENTY-FIVE COLLEGES AND UNIVERSITIES

In these days, when the idea of uniformity in college-entrance requirements among all the leading colleges and universities of the United States is being seriously advocated, and certain preliminary steps to that end have already been taken, a comparison of the actual regulations in effect at present may be interesting and instructive.

The following table has been prepared from the latest catalogues or special bulletins issued by the various institutions. The prescriptions for admission to the department of literature, science, and the arts have alone been considered, and no effort has been made to indicate the various regulations that govern the course of students once they have been admitted to the colleges. In several instances such post-admission requirements operate to make the entrance prescriptions considerably more rigid than the data in the table would indicate. Since, however, discussions respecting the recent changes in a number of universities have already appeared in the *School Review*,<sup>1</sup> it is deemed inadvisable to enter into details in this article.

An analysis of the table reveals the following interesting facts:

1. That only two of the state institutions and only three of the non-state institutions prescribe other than fifteen units for admission.
2. That the usual mode of admission is by certificate in all of the institutions except Harvard, Yale, and Princeton.
3. That twenty of the twenty-five institutions prescribe three units of English.
4. That all the institutions except Minnesota, Chicago, and Leland Stanford Junior prescribe some foreign language; that in no one of the state institutions does this prescription exceed four units, while in four of these institutions the prescription is three units, and in six, two units; and that in the non-state schools none except Chicago and Leland Stanford Junior accepts

<sup>1</sup>Franklin W. Johnson, "The New Harvard Entrance Requirements," XIX, 412-13 (June, 1911); James R. Angell, "The Combination of Certificate and Examination Systems," XX, 145-60 (March, 1912).

THE REQUIREMENTS FOR ADMISSION TO THE DEPARTMENTS OF  
LITERATURE, SCIENCE, AND THE ARTS IN TWENTY-FIVE  
COLLEGES AND UNIVERSITIES IN THE UNITED STATES

COLLEGE OR UNIVERSITY	UNITS REQUIRED FOR ADMISSION	UNITS PRESCRIBED						ELECTIVE ACADEMIC UNITS TOTAL ACADEMIC UNITS REQUIRED	VOCATIONAL UNITS ACCEPTED	USUAL MODE OF ADMISSION	OTHER MODES OF ADMISSION	
		English	Foreign Language	Mathematics	History	Science	Total					
I. State Institutions												
1. California.....	15	2	4	2	1	1	10	2	12	3	Certificate	Examination
2. Colorado*	15	3	4	2	2	2	13	..	12	3	Certificate	Examination
3. Illinois.....	15	3	3	2½	1	..	9½	3½	13	2	Certificate	Examination
4. Indiana.....	16	3	3	3	1	1	11	..	11	5	Certificate	Examination
5. Iowa.....	15	3	3	2½	1	..	8½	6½	15	..	Certificate	Examination
6. Kansas.....	15	3	3	2½	1	2	11½	2½	14	1	Certificate	Examination
7. Minnesota†	15	4	..	2	..	..	6	5	11	4	Certificate	Examination
8. Michigan†	15	3	2	2	..	1	8	4	12	3	Certificate	Examination
9. Missouri.....	15	3	2	2	..	..	7	4	11	4	Certificate	Examination
10. Nebraska.....	15	2	3	2½	1	..	8½	3½	12	3	Certificate	Examination
11. Ohio.....	15	3	4	2	1	1	11	2	13	2	Certificate	Examination
12. Oregon.....	15	3	2	2½	1	1	9½	3½	13	2	Certificate	Examination
13. Purdue (Indiana).....	15	3	2	2½	1	1	9½	1½	11	4	Certificate	Examination
14. Washington§	15	3	4	2½	1	1	11½	½	12	3	Certificate	Examination
15. Wisconsin.....	14	2	2	2	..	..	6	4	10	4	Certificate	Examination
II. Non-State Institutions												
1. Brown.....	14½	3	5	2½	1	..	11½	2½	14½	..	Certificate	Examination
2. Chicago ¶	15	3	..	..	..	..	3	7	10	5	Certificate	Examination
3. Columbia.....	14½	3	4	2½	..	..	9½	4	13½	1	Certificate	Examination
4. Harvard.....	15	3	4	2	1	1	11	3	14	1	Examination	.....
5. Leland Stan- ford Junior**	15	3	..	..	..	..	3	..	15	..	Unqualified Recommendation	Examination
6. Princeton.....	14½	3	6	2½	..	..	11½	3	14½	..	Examination	.....
7. Smith.....	15	3	4	2½	2	..	11½	3½	15	..	Certificate	Examination
8. Vassar.....	15	4	7	2½	1	..	14½	½	15	..	Certificate	Examination
9. Wellesley.....	15	3	7	3	1	..	11	4	15	..	Certificate	Examination
10. Yale.....	15	3	6	2	..	..	11	4	15	..	Examination	.....

\* The University of Colorado states that "candidates for admission should present the fifteen units indicated" but adds: "All students who do not present the units specified in the above table of requirements but who do present fifteen acceptable units will be regularly admitted. Such students will, however, be required to elect in college courses that will fulfil the requirements specified."

† The University of Minnesota prescribes three units of English and in addition "a major series of three or more units and a minor series of two units. . . . Either the major or the minor series must be in mathematics."

‡ The new entrance requirements of the University of Michigan provide that "graduates of schools on the approved list of the North Central Association of Colleges and Secondary Schools will be admitted upon the presentation of an unqualified recommendation covering not less than fifteen units, of which at least twelve must be from Group I [the older academic subjects]. Admission on this basis of recommendation may be granted also to the graduates of other especially approved schools."

§ The University of Washington provides three groups or courses within the College of Arts and Sciences. Each entering student is required to elect to follow one of these. For admission to two of

these three courses four years of foreign-language study are prescribed, as indicated in the table above. For admission to the "Mathematics and Science Group," however, but two years of foreign-language study are prescribed.

¶ In the University of Chicago three units in English constitute the only absolute prescription. In addition to English, however, a second major of three units, a minor of two units, and two other elective units, all lying within the group of the older academic subjects, are required. The remaining five units may be "selected from any subject accepted by an approved school for its diploma."

\*\* The only absolute prescription made by Leland Stanford Junior University is that of three units in English, and the unqualified recommendation of the candidate by the secondary-school authorities.

fewer than four units, while one requires five units, two require six units, and two require seven units.

5. That every one of the colleges and universities except Chicago and Leland Stanford Junior prescribes mathematics—nine institutions prescribing two units, twelve prescribing two and one-half units, and two prescribing three units.

6. That fourteen of the institutions prescribe one unit in history, and two prescribe two units.

7. That only ten institutions prescribe any science whatever, and of these ten, eight prescribe only one unit and two prescribe two units.

8. That with the exception of Chicago and Leland Stanford Junior no institution specifically prescribes, in the aggregate, fewer than six units; that only eight specifically prescribe fewer than nine units; that twelve specifically prescribe fewer than ten units; that eleven specifically prescribe between ten and twelve units; and that two specifically prescribe more than twelve units.

9. That every state institution except Iowa accepts some credit in vocational subjects, but that only three non-state institutions accept such credit; and that of the fourteen state institutions accepting vocational units, one accepts five, four accept four, five accept three, three accept two, and one accepts only one unit.

It seems obvious from this analysis that if uniformity in entrance requirements is to be established, or even approximated, this must be accomplished on a liberal basis, and not on a conservative or rigid one. In other words, the colleges must be prepared to accept a minimum of specified prescribed work and not a maximum. Just what branches shall constitute this *sine qua non* is of course the crux of the problem. From the foregoing analyses, however, the trend seems to be toward putting the emphasis upon character and acquired habits of thought and study more than upon specific attainments. The requirements for scholarship seem to be satisfied if the candidate gives evidence of having an appreciative acquaintance with the forms, contents, and processes of thought of several departments of learning, and at the same time evinces a grasp and a relative mastery of the forms, contents, and processes of thought in one or two distinct fields.

C. O. DAVIS

THE UNIVERSITY OF MICHIGAN

## REJOINDER TO PROFESSOR SHOREY

The chief point in my criticism<sup>1</sup> of Professor Shorey was his failure to see in the recent study of education—some of which has been experimental—anything that is at all valuable. In his specific attack upon the “transfer” experiments, I believed that he could have very effectively called attention to the unwarranted interpretations and extensions to which these experiments have been subjected, without at the same time blinding his public to their really valuable outcomes. I particularly resented his listing me as an opponent of the doctrine of formal discipline when the very instance that he cited<sup>2</sup> from me as “gravely alleged” against the doctrine was explicitly brought forward (as the context<sup>3</sup> clearly shows) to illustrate the possibilities of transfer. The first article that I published on formal discipline<sup>4</sup> was directed against what I believed to be dangerous and unwarranted interpretations of the earlier experiments, and involved in essence the notion of transfer upon the conscious level which has been thoroughly sanctioned by practically all of the investigations that permit the operation of a conscious factor. Against the notion of transfer upon an automatic level I have, indeed, protested strongly, and here again the experiments in general bear me out.

It is possible, of course, that Professor Shorey will object to my contention that the valuable features in the doctrine of formal discipline may be retained and the harmful features eliminated by the “simple” formulation of the doctrine in terms of “concepts of method” or “ideals of procedure.” He may wish to retain the implication of transfer on the automatic level, and he may assert that my rejection of this notion is really a rejection of the doctrine as a whole. In that case, he should have taken pains to define his own idea of discipline—an issue which, I regret to say, he explicitly dodges. In the “Case for the Classics,” he admits that the term “discipline” is “perhaps equivocal or question-begging,” and asserts that it is not to be “authoritatively defined.” I should not conclude that his own idea of discipline lacks clearness; I certainly should not list him among those unfortunate persons who “have no clear ideas on the subject without or in advance of experimentation”; it would be quite unkind to suggest that his own admitted inability to give a clear definition of the term should impel him to seek the aid of experimentation, which he admits to be valuable in such cases. The fact remains,

<sup>1</sup> *School Review*, May, 1912, pp. 343-46. Professor Shorey's reply is published in the *School Review*, June, 1912, pp. 417-21.

<sup>2</sup> “The Case for the Classics,” *School Review*, November, 1910, p. 608, note.

<sup>3</sup> *The Educative Process*, pp. 210 ff. The illustration in question is prefaced by the statement that certain explanations of transfer put forward by O'Shea and Thorndike leave something unaccounted for. After describing the “gravely alleged” experience and after citing two other cases, I definitely assert that something very important and very powerful may be carried over from one field to another. On p. 216 the essential validity of the doctrine of formal discipline is definitely asserted.

<sup>4</sup> *School and Home Education*, October, 1904.

however, that he did dodge a definition; consequently I am unable to say whether my formulation of the disputed doctrine tallies in any way with his own idea. If, on comparison, he finds that it does, I have no doubt that the promised apology will be forthcoming; in any case, it is a matter of minor consequence.

It is not of minor consequence, however, that Professor Shorey should impute to the experimental method the misconstructions that may have been placed upon its results. It is legitimate criticism to prove that an experiment simplifies conditions in a deceptive and falsifying way, but it is incumbent upon the critic to do something more than simply make the assertion. He must, if I understand aright the canons of scientific criticism, show clearly where the conditions of the experiment belie the actual conditions to which the experimental results are generalized. Legitimate simplification of conditions involves the elimination of irrelevant factors; it is the critic's business to show that the factors eliminated are not irrelevant, if he would cast suspicion upon the experiment from this point of view. Professor Shorey has here a fair field for his recognized critical ability, but he fails to exploit it. All that I can find is the purely dogmatic assertion that "inserting needles into holes, estimating areas, drawing with the hand hidden behind a screen, etc., etc., are all falsifying simplifications of the infinitely complex problem to the solution of which they may or may not lead in years to come."<sup>1</sup> We should welcome a careful study by Professor Shorey of, say, Ruger's experiments on the psychology of efficiency,<sup>2</sup> with a clear statement of how far we may extend Ruger's conclusion that the transfer of training is not found on the automatic level, but that ideals of procedure are wonderfully effective agencies in such transfer.

Again it is not a matter of minor consequence that Professor Shorey should dismiss as too "simple to be recognized" the terms "concept of method" and "ideal of procedure." Again, if I understand aright the canons of criticism, one cannot crush a theory by the mere assertion that it is simple. Simplicity at this point if anywhere is a virtue and not a fault. But Professor Shorey can do the world a good turn if he proves that a theory is too simple to offer an adequate control over the processes involved. This, I may suggest, is another point where his criticism would be welcomed. Let him take, for example, the excellent "rules for transfer" formulated upon the basis of the experimental results by Professor Colvin<sup>3</sup> and show either that they will be positively detrimental in the practice of teaching or that they offer nothing that could have been inferred from the disciplinists' conception in its older form.

It would, of course, be futile to waste words with Professor Shorey as to the value of the experiments on the psychology of thought. These have

<sup>1</sup> "The Case for the Classics," p. 607, note.

<sup>2</sup> *Archives of Psychology*, June, 1910.

<sup>3</sup> *The Learning Process*, pp. 242 ff.



but slight educational significance at present, and I have already asserted that their results are meager enough. If, however, Professor Shorey can find among his favorite authorities an adequate recognition of the importance of the *Aufgabe* and the *Bewusstseinslage*, or a convincing statement of the relation of kinaesthesia to meaning, the citation would be interesting.

Professor Shorey's reference to Professor Thorndike's article is obviously superficial as well as quite oblivious to the crying need in elementary education of efficiency-scales. Professor Thorndike has here pioneered his way into a field that promises the largest practical results. I can testify from my own experience to the value of his handwriting standards in simplifying the work of supervision, and I have no doubt that the composition-scale will be equally serviceable. The terminology that Professor Shorey objects to is only a tentative attempt to label something that has not yet been analyzed. Metaphor in a case of this sort is not to be confused with the metaphorical designation of psychological processes for which fairly unequivocal terms are already available.

In conclusion, I may assure Professor Shorey that my use of the term "code of honor" and my employment of other "unfortunate" phraseology should be considered as instances of "rhetorical exaggerations," comparable

believe in every way to his own use of the following phrases with reference to my profession: "Recent writers upon education do not *scruple* to tell the public that science has spoken"; "the humbler service of protestants who decline to be *gulled*"; "for the protection of a *gullible* public"; "they must not *turn one face* to the public and *another to us*." (The italics are mine.)

W. C. BAGLEY

THE UNIVERSITY OF ILLINOIS

## BOOK REVIEWS

### *Monographs on Topics of Modern Mathematics Relevant to the Elementary Field.*

Edited by J. W. A. YOUNG. New York: Longmans, Green & Co., 1911. Pp. vii+416.

An extract from the editor's preface will give a good idea of the scope and purpose of this work:

"Among the various publications on mathematics that are being made, it would seem that there is room for a serious effort to bring within reach of secondary teachers (in service or in training), college students, and others at a like stage of mathematical advancement, a scientific treatment of some of the regions of advanced mathematics that have points of contact with the elementary field. Undoubtedly one of the most crying needs of our secondary instruction in mathematics today is that the scientific attainments of the teachers be enlarged and their mathematical horizon widened; and I believe that there is a large body of earnest teachers and students that are eager to extend their mathematical knowledge if the path can be made plain and feasible for them.

"A volume of monographs dealing with selected topics of higher mathematics might well be a useful contribution to the meeting of this need. Such monographs would aim to bring the reader into touch with some characteristic results and viewpoints of the topics considered, and to point out their bearing on elementary mathematics. They would therefore contain:

"(1) A considerable body of results proved in full, so that the reader can materially extend his mathematical acquisitions by the reading of the monograph alone.

"(2) Statement without proof of some leading methods and results, so as to give a bird's-eye view of the subject.

"(3) A small number of references indicating what the reader may profitably take up after he has mastered the contents of the monograph.

"Each author retains sole responsibility for his monograph as it now appears. No attempt has been made to secure uniformity in style of treatment; each monograph is an independent unit, that can be read without reference to the others.

"The amount of technical mathematical knowledge that is presupposed on the part of the reader varies with the different subjects. A large part of the book presupposes only knowledge of elementary geometry and algebra, together with a certain measure of mathematical maturity. On the other hand, there is much that will repay careful and detailed study by advanced students. So far as the subject-matter permits, the less difficult topics are taken up first in each monograph."

The nine monographs in this collection are:

- I. "The Foundations of Geometry," by Oswald Veblen.
- II. "Modern Pure Geometry," by Thomas F. Holgate.
- III. "Non-Euclidean Geometry," by Frederick S. Woods.
- IV. "The Fundamental Propositions of Algebra," by Edward V. Huntington.
- V. "The Algebraic Equation," by G. A. Miller.

VI. "The Function Concept and the Fundamental Notions of the Calculus," by Gilbert Ames Bliss.

VII. "The Theory of Numbers," by J. W. A. Young.

VIII. "Constructions with Ruler and Compasses; Regular Polygons," by L. E. Dickson.

IX. "The History and Transcendence of  $\pi$ ," by David Eugene Smith.

The authors are all professors of mathematics in American universities, and well known as writers in their special fields. Their names alone are a sufficient guaranty of the quality of this work. Not only has their judgment in choice of material been excellent and their work clear-cut and accurate, but they have in the main succeeded in making their presentation really readable to those for whom it was intended (a by-no-means easy accomplishment for the specialist). To select but a single instance, few will commence Professor Bliss's paper without finishing it, if possible, at one sitting; to the reviewer, at least, it was as fascinating as a novel; and yet this is in the supposedly arid region of function-theory and the calculus.

A glance at the list of titles shows that there is no attempt here at a general introduction to advanced mathematics. All the monographs are in the field of geometry and algebra alone, except VI, VII, and IX. Applied mathematics is scarcely referred to, and only the barest elements of the calculus are presented. The choice of material has evidently been determined largely by the two considerations of interest and accessibility to the audience addressed. None of the papers is, however, a "mathematics made easy." The spirit of criticism that characterizes the present period is dominant; theorems are stated accurately, and not "in general"; what is proved and what is assumed are clearly distinguished. And, almost uniformly, each article leaves one impressed with the magnitude of the field to which it leads, and curious to know more of some of the details merely mentioned or hinted at.

As the editor has stated, this book is intended both for secondary teachers and for college students. That the list of those who may profit by its reading is by no means so circumscribed is evident to the reviewer from his own experience. However, if we turn to the audience more especially addressed, it may be asked whether, after all, the material is really within reach of secondary teachers, especially of those whose daily work has left little opportunity for keeping fresh their college mathematics. Certainly previous attempts, such, for instance, as have been made to popularize the calculus, have not been unqualified successes. It is only a partial answer to say that none of the articles presupposes much more than the ordinary Freshman course in mathematics, and some not even as much as this. Monograph I presupposes only the most general principles of logic, yet many will find it the most difficult of the collection to follow in detail. It may be safely asserted that "skimming" most of these papers will yield little except to one thoroughly familiar with the material, but that very few will fail to profit by a careful reading of any one article. And there should prove to be no real obstacle to the mastering of any proof actually carried through here, *provided* the reader is willing to put in the necessary thought and care.

As to the other division of the audience addressed, advanced college students, there can be no difference of opinion regarding the service rendered. This book should be placed in every seminar and mathematical reading-room. It will be a potent factor in many a mathematical awakening.

Any extended consideration of the scope or method of each paper would, perhaps, be out of place here. Brief summaries will suffice.

The first three monographs may be grouped together, as they treat of the same field, geometry, though by no means with the same method. Professor Veblen's monograph develops the foundations of geometry, starting with but one undefined element, the point, and two undefined relations, order and congruence. This is carried out with full detail far enough to cover the ground of Euclid's first twenty-eight propositions. The remainder of the paper is merely an outline. Considerations of independence, consistency, and sufficiency are not entered upon. The next paper is in strong contrast. It makes little attempt at exactness of definition, but lays its main stress on the obtaining of results. Euclid is assumed. The author is thus enabled in thirty pages to go as far as Pascal's and Brianchon's theorems, a discussion of coic sections, and an introduction to poles and polars, mainly but not entirely by synthetic methods. In Professor Woods's monograph the style and treatment lie between those of the two preceding. For its foundation one may use either Professor Veblen's exact system, or Euclid's less complete one, up to the parallel postulate. No little skill is shown in bringing together the points of view of Lobachevsky and Bolyai, of Riemann, and of Cayley and Klein. There is more detail here than in most of the other papers, and it will not be found the easiest to read, but on the other hand it gives a more complete introduction to its field than do most of the others.

The building-up of a set of postulates for any branch of mathematics, perhaps we should say more exactly for any mathematical system, is often considered one of the driest of pursuits. Professor Huntington's paper on the "Fundamental Propositions of Algebra" is, however, one of the most interesting of this collection. How he makes it so may be left to the reader. It is much simplified by first considering concrete examples of the abstract theory. Questions of consistency, sufficiency, and independence are considered in detail. In one of the appendices is given a proof that every algebraic equation has a root in which the function-theoretic details seem to be simplified to the minimum.

Monographs V and VI attempt, for obvious reasons, only a most general survey of their field. They are interesting and suggestive; their main function is not to convey detailed information, but to point the way. In VI there is a rather annoying exception to the usually careful proofreading. But here, and in one or two places elsewhere, the twisted words and incorrect formulas can be set right without great trouble.

In VII a more detailed treatment is to be found. The classical theory of numbers is developed up to and including a brief treatment of binomial and quadratic congruences. The perennial fascination of the subject can hardly fail to be aroused in the reader. In VIII is developed the most interesting application of number theory and algebra. The author has succeeded in not spoiling its interest by a too-formidable massing of theorems and proofs; this is in part accomplished by deferring some of the proofs. This is probably the most readable presentation of the subject to be found anywhere, and is given with fairly full detail.

Monograph IX is another special application of subjects previously considered. Its first half is descriptive and historical, in Professor Smith's well-known style. The last part is devoted to Gordan's proof of the transcendence of  $e$  and  $\pi$ . This will be found by most the hardest nut to crack of the whole book, in spite of the limitation in stating proofs to equations of the third degree. The mixture of formulas at the end is unfortunate.

This book has no competitor in its field. Nothing of just this kind has hitherto appeared in English, or in any other language so far as the reviewer is aware. A need for it has existed, and much has here been done toward filling that need.

D. R. CURTISS

NORTHWESTERN UNIVERSITY

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*Internationales auf dem Gebiet der Erziehung.* VON WILHELM MÜNCH.  
(Internationale Wochenschrift für Wissenschaft, Kunst, und Technik,  
March 4, 1911.)

This article reviews the present educational situation in France, England, the United States, and Germany. The review is "international" not only in that it includes a consideration of several countries but also in the fact that the different nations are compared with one another and that the criticisms, favorable and unfavorable, which are cited have been made in each case by foreign critics as well as by those at home. The outstanding criticisms which are brought to bear upon the French system are directed toward its scholasticism, emphasis upon rhetorical training, and intellectualism as contrasted with training of the will. Movements for reform are noticed, however, and it is recognized that a type of training which would not suit another people might be the best for the French. English education is criticized for its neglect of adequate scientific preparation and its accompanying overemphasis upon sport as a means of discipline of the will. At the same time the advantage in sympathetic relations between master and pupil and in freshness and vigor of judgment and action is recognized. A further advantage of the English system is its decentralization, which allows greater flexibility and presents less resistance to reform than a more closely organized system. The chief criticism of American education in foreign quarters seems to concern itself with the freedom which is allowed the pupils, particularly in choice of studies. The author finds that Germany does not hold the position of recognized leader in education which it once held. Foreigners are finding much to criticize in the hard-and-fast and centralized organization of the German system, the spirit of subjection to authority which is engendered, and the failure to encourage the development of individuality. The author finds an interesting historical reason for this situation in the fact that "we Germans are by nature more individualistic and therefore need for our common life a hand to control and bind us together more than many other nations." What is good for one nation may not be good for another. Nevertheless, German education, as well as that of other nations, is moving in the direction of reform. The value of international acquaintanceship and criticism appears in the tendency of each nation to adopt the good features of the systems of its neighbors.

FRANK N. FREEMAN

THE SCHOOL OF EDUCATION  
THE UNIVERSITY OF CHICAGO

## BOOKS RECEIVED

### EDUCATION AND PSYCHOLOGY

- The American Secondary School and Some of Its Problems.* By JULIUS SACHS. New York: Macmillan, 1912. Pp. xx+295. \$1.10.
- Current Educational Activities: A Report upon Education throughout the World, Being the 1911 Volume of "The Annals of Educational Progress."* By JOHN PALMER GARBER. (Lippincott's Educational Series, edited by MARTIN G. BRUMBAUGH.) Philadelphia: J. B. Lippincott Co., 1912. Pp. xiv+387. \$1.25.
- Examples of Industrial Education.* By FRANK MITCHELL LEAVITT. Boston: Ginn & Co., 1912. Pp. viii+330. \$1.25.
- Fine and Industrial Arts in Elementary Education.* By WALTER SARGENT. Boston: Ginn & Co., 1912. Pp. vi+132. \$0.75.
- Die Erziehung der Anschauung.* Von H. E. TIMERDING. Leipzig: Teubner, 1912. Pp. viii+241. With 124 figures in the text. M. 4.80.
- The Sexual Life of the Child.* By ALBERT MOLL. Translated from the German by EDEN PAUL. With an Introduction by EDWARD L. THORNDIKE. New York: Macmillan, 1912. Pp. xvi+339. \$1.75.
- Founders of Modern Psychology.* By G. STANLEY HALL. New York: D. Appleton & Co., 1912. Pp. x+471. Illustrated. \$2.50.
- Genetic Philosophy of Education: An Epitome of the Published Educational Writings of President G. Stanley Hall of Clark University.* By G. E. PARTRIDGE. With an Introductory Note by President HALL. New York: Sturgis & Walton Co., 1912. Pp. xviii+401. \$1.50 net.
- The Outlines of Educational Psychology: An Introduction to the Science of Education.* By WILLIAM HENRY PYLE. Baltimore: Warwick & York, 1911. Pp. x+254. \$1.25.
- The Culture of Religion: Elements of Religious Education.* By EMIL CARL WILM. Boston: The Pilgrim Press, 1912. Pp. xii+204. \$0.75 net.
- Selected Addresses.* By JAMES BURRILL ANGELL. New York: Longmans, Green & Co., 1912. Pp. viii+285. \$1.60.
- A Comparative Study of City School and Rural School Attendance.* By ERNEST WILDER FELLOWS. (Studies in Education from the Department of Education of the State University of Iowa, edited by FREDERICK ELMER BOLTON.) Iowa City: The State University of Iowa, 1912. Pp. 28.

### ENGLISH

- English Composition and Style: A Handbook for College Students.* By WILLIAM T. BREWSTER. New York: The Century Co., 1912. Pp. x+512.
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<sup>1</sup> Abbreviations.—*Amer. Phys. Educa. Rev.*, American Physical Educational Review; *Atlan.*, Atlantic Monthly; *Cent.*, Century; *Colum. Univ. Q.*, Columbia University Quarterly; *Educa.*, Education; *Educa. Bi-mo.*, Educational Bi-monthly; *Educa. R.*, Educational Review; *Educa. Rec. (Lond.)*, Educational Record (London); *El. School T.*, Elementary School Teacher; *English J.*, English Journal; *Harp. W.*, Harper's Weekly; *J. of Educa. (Bost.)*, Journal of Education (Boston); *J. of Educa. Psychol.*, Journal of Educational Psychology; *J. of Psycho-Asthenics*, Journal of Psycho-Asthenics; *Kan. School M.*, Kansas School Magazine; *Kind. R.*, Kindergarten Review; *Lib. J.*, Library Journal; *Lit. D.*, Literary Digest; *Man. Train. M.*, Manual Training Magazine; *Outl.*, Outlook; *Pedagog. Sem.*, Pedagogical Seminary; *Pop. Sci. Mo.*, Popular Science Monthly; *Print. Art*, Printing Art; *Psychol. Clinic*, Psychological Clinic; *Pub. Lib.*, Public Libraries; *R. of Rs.*, Review of Reviews; *School and Home Educa.*, School and Home Education; *School R.*, School Review; *Sci. Am.*, Scientific American; *Sci. Am. Sup.*, Scientific American Supplement; *Teach. Coll. Rec.*, Teachers College Record; *Train. School M. (N.J.)*, Training School Magazine (New Jersey); *Univ. of Chic. M.*, University of Chicago Magazine.

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